

controls and applying ergonomic principles when developing workstations, tools, or jobs * * * only engineering controls eliminate the workplace hazards. Other strategies [work practices, administrative controls] only minimize the risk of injury (Ex. 26-1408).

However, a number of commenters mistakenly understood OSHA's statement in the proposal about the preferred status of engineering controls. These commenters understood this statement to mean that administrative or work practice controls could not be used in lieu of engineering controls. This was not OSHA's intent, nor is the inclusion of this statement in the final rule to be interpreted that way. In the final rule, as in the proposal, OSHA is permitting any combination of controls (except PPE) to be used to control MSDs, either alone or in combination. OSHA agrees, as these parties (see, e.g., Exs. 30-3344, 30-4628) argued, that in many cases, the use of administrative or work practice controls alone may eliminate the hazard and thus obviate the need for more expensive engineering controls. For example, the Milliken Company stated:

The authorization in [proposed] section 1910.920(a) for employers to use any combination of engineering, administrative, and work practice controls is effectively rendered meaningless with the statement that follows, which specifies that engineering controls are the preferred method for eliminating or materially reducing MSD hazards. This provides too much latitude for OSHA area directors to issue citations when an employer has used administrative and work practice controls rather than engineering controls (Ex. 30-3344).

Other commenters who misinterpreted the proposed statement about the preference for engineering controls were concerned that this preference could greatly increase the costs of compliance if OSHA enforced this provision. For example, the Rubber Manufacturers Association emphasized that " * * * the hierarchy placing engineering controls over other alternatives * * * restricts employers' discretion to choose less expensive, non-engineered alternatives" (Ex. 500-95). Other groups, such as Pharmtech (Ex. 30-4122) and Southern States Cooperative Inc. (Ex. 30-394), argued that " * * * a vast percentage of workplace injuries result not from exposure that might be limited through engineering solutions, but from problematic employee behavior and safety related decisions." Issues of feasibility were pointed to by several commenters (see, e.g., Exs. 30-3368, 30-4264) such as the National Soft Drink Association, which stated:

Although the employer is allowed to use any combination of controls, OSHA makes

clear that engineering controls are preferred, where feasible. Lacking any definition or guidance of the term "feasible" complicates understanding or complying with OSHA's intent in this regard. Such ambiguity will undoubtedly lead to disagreements between employers and OSHA compliance personnel (Ex. 30-3368).

In response, OSHA notes that the hierarchy of controls has been an established industrial hygiene practice since the 1950s and has been a longstanding OSHA policy, as evidenced by many of the Agency's standards (e.g., asbestos, § 1910.1001; benzene, § 1910.1047; cadmium, § 1910.1027; and methylene chloride, § 1910.1052). As was stated in the proposal, ergonomists endorse the hierarchy of controls because they believe that control technologies should be selected based on their reliability and efficacy in controlling or reducing the workplace hazard (exposure to risk factors) giving rise to the MSD. OSHA does not agree that "problematic employee behavior" is the cause of occupational injuries and illnesses, nor that feasibility will be a concern with this standard, in large part because the standard allows such flexibility in control approach and requires only that employers implement feasible controls.

Many groups (see, e.g., Exs. 32-21-1-2-19, 20-69, 20-22, 30-4538, 30-3683) commenting on the proposal strongly supported the hierarchy of controls. For example, the American Association of Safety Engineers stated:

We agree that engineering controls should be the first option in alleviating WMSDs. While this type of approach could be the most expensive from the short-term perspective, our experience is that engineering controls are the most efficient/effective approach in the long-term (Ex. 32-21-1-2-19).

OSHA agrees that the use of engineering controls is the most effective way of controlling the MSD hazards. However, as discussed above, this standard permits employers to use any combination of controls, except PPE alone, to address MSD hazards in their workplace.

Paragraph (1)(2)—Personal Protective Equipment

Paragraph (1)(2) of the final standard permits employers to use personal protective equipment (PPE) to supplement engineering, work practice, and administrative controls. However, personal protective equipment may not be used alone, i.e., as the sole means of employee protection, unless no other controls are feasible. In addition, any PPE that is provided must be made available to employees at no cost.

PPE is equipment that is worn by the employee and reduces exposure to risk factors and MSD hazards in the job. Examples are palm pads and knee pads to reduce contact stress, vibration-attenuation gloves, and gloves worn to protect against cold temperatures.

The hierarchy of controls, which, as discussed above, is widely endorsed by ergonomists, occupational safety and health specialists, and health care professionals, accords last place to PPE because:

- Its efficacy in practice depends on human behavior (the manager's, supervisor's and worker's),
- Studies have shown that the effectiveness of PPE is highly variable and inconsistent from one worker to the next,
- The protection provided cannot be measured reliably,
- PPE must be maintained and replaced frequently to maintain its effectiveness,
- It is burdensome for employees to wear, because it decreases mobility and is often uncomfortable,
- It may pose hazards of its own (e.g., the use of vibration-reduction gloves may also force workers to increase their grip strength).

One author (Ex. 26-1408) notes that: " * * * in most cases, the use of PPE focuses attention upon worker responses and not the causes of ergonomic hazards. * * * PPE does not eliminate ergonomic hazards * * * [and] must be considered as the last line of defense against ergonomic hazard exposure." Thus, although the final standard permits PPE to be used as a supplemental control, it cannot be relied on as a permanent solution to MSD hazards unless other feasible controls are unavailable.

In the proposal, OSHA included a note to the proposed section on the hierarchy of controls that stated that back belts/braces and wrist braces/splints were not to be considered PPE for purposes of the standard. This note was added to alert employers to the fact that back belts and wrist braces, which are widely used in U.S. workplaces, were not to be considered a control to reduce ergonomic hazards under the proposed standard. OSHA pointed out that these devices were being marketed as equipment that could prevent MSDs, although the evidence to support these claims was inconclusive.

A number of commenters and studies in the record (see, e.g., 32-30-1-15, 32-30-1-6, 32-30-1-7, 32-30-1-29, 32-30-1-14) suggest that OSHA should allow the use of back belts as PPE on the grounds that these devices have been shown to reduce workplace injuries. For

example, Mr. Jeffrey Whitaker commented that:

As safety professionals we realize that back supports alone are not a solution and we apply the hierarchy of controls in our work with our customers on a daily basis. We recommend engineering and work practice controls be used whenever possible but we all know of hundreds of workers' whose jobs will never or cannot be changed. These workers need at least a modicum of support when doing their jobs. Back supports are used in these situations to provide a basic line of defense for vulnerable workers (Ex. 30-2724).

Commenters from Chase Ergonomics were of the same opinion:

Back supports should be recognized as an acceptable component of an overall back safety program under the hierarchy of controls. As with any PPE, back supports are not the first intervention option. In many jobs, however, neither engineering controls nor work practice or administrative controls are feasible or practicable. In these circumstances, OSHA's PPE standard allows employers to provide workers with protective equipment that is appropriate for the hazards present * * * OSHA should clarify that employers may use back supports as a supplement to their overall back injury prevention program (Ex. 30-3857).

However, other organizations and commenters cautioned against the use of back belts as PPE. For example, in a 1994 report reviewing the available scientific literature on the use of back belts, NIOSH expressed concern that wearing a belt may alter workers' perceptions of their capacity to lift heavy workloads (*i.e.*, belt wearing may foster an increased sense of security, which may not be warranted or substantiated) (Ex. 15-16). NIOSH does not recommend the use of back belts as PPE, and neither do a number of professional societies (Exs. 15-15, 15-17, 15-33, and 500-41-99).

However, in response to comments submitted to the record regarding back belts, OSHA has reviewed the available scientific literature addressing the efficacy of back belts in reducing MSDs. OSHA has conducted an extensive review of the evidence in the record on the effectiveness of back belts in industrial use. The evidence is mixed. Several studies (see, *e.g.*, Exs. 32-30-1-21, 32-30-1-22, 32-30-1-2, 32-30-1-8, 33-30-1-16, 32-31-1-23) of back belt use showed negative results. For example, a 1996 study by Rafacz and McGill (Ex. 32-30-1-21) that investigated the effectiveness of back belts in 20 healthy male subjects found that belt wearing increased diastolic blood pressure during every task performed by the study subjects. The authors concluded that "wearing an abdominal belt may put undue strain on

the cardiovascular system and * * * that screening for cardiovascular compromise should be conducted before occupational belt-wearing." Another study (Alexander *et al.* 1995) that evaluated belt use in nursing, dietary, and environmental services workers found no significant differences in the number of self-reported back injuries. The authors concluded that "This finding supports research [showing] that universal prescription of back belts did not decrease the number of back injuries and that there [is] no support for uninjured workers wearing back belts to reduce risk of injury." (Ex. 32-30-1-2).

A number of back belt studies in the literature report inconclusive results (see, *e.g.*, Exs. 32-30-1-22, 32-30-1-8, 32-30-1-24, 32-30-1-12). For example, a study by Kraus *et al.* 1996 (Ex. 32-30-1-12) reported a lower acute back injury rate among belt users than non-users, but cautioned that a number of confounders, such as the inability to evaluate injury status, job lifting intensity, or length of employment "may be important confounders or effect modifiers that delimit the potential effect of back supports."

However, a number of recent studies (see, *e.g.*, Exs. 32-30-1-25, 32-30-1-6, 32-30-1-7, 32-30-1-14, 32-30-1-19) contain limited evidence that back belt use can, in certain circumstances, provide some protection to workers. For example, a 1998 study evaluated trunk stiffening during flexion and lateral bending and concluded that "increased spine stability may provide greater protection against injury following unexpected or sudden loading" (Ex. 32-30-1-6). A 1995 review of the literature on back belt effectiveness (Ex. 32-30-1-7) concluded: "Based on our assessment of the * * * studies reviewed in this paper, a major finding is that back supports designed solely for specific purposes could be biomechanically, physiologically, and psychophysically effective in relieving the loads on the lumbar spine for employees engaged in many industrial operations." A study by one of OSHA's expert witnesses, Dr. Stephen Lavender (Ex. 32-30-1-14) that evaluated the effect of lifting belts, foot movement, and lift asymmetry on trunk motions, concluded that the lateral bending and twisting motions of the torso are controlled with belt use.

OSHA's review of the voluminous record on the back belt issue shows that back belts may have protective effects in certain industrial settings, such as sudden unexpected loading of the spine (Ex. 32-30-1-14). OSHA is aware that several of these studies had small sample sizes (*e.g.*, 10 subjects) (Ex. 32-30-1-6), lacked control groups, and

were of short duration. Nevertheless, the Agency is persuaded that the evidence for the effectiveness of back belts, although limited, exceeds that available for other types of equipment that workers wear that is classified as PPE (*e.g.*, palms pads, knee pads). OSHA has therefore decided not to prohibit the classification of back belts as PPE for the purposes of this standard. Accordingly, the note to that effect contained in the proposal does not appear in the final rule. Permitting back belts to be used as PPE means that employers will be required to provide them to their workers, if they choose to do so, at no cost to employees. Further, as with any PPE, back belts used in this manner are subject to OSHA's standard for PPE (29 CFR 1910.132).

OSHA does not believe that the record in this rulemaking does not support permitting other devices, such as back braces and wrist braces or splints, which are generally prescribed as part of a treatment regimen, to be considered PPE. These devices are generally prescribed for individuals who have already been injured, and are not intended to be used in the prevention of injuries. In some cases, they may even exacerbate an existing MSD hazard. As explained by the AIHA, wrist splints and braces may present serious problems:

Wrist splints or braces used to keep the wrist straight during work are not recommended, unless prescribed by a physician for rehabilitation. * * * using a splint to achieve the same end may cause more harm than good since the work orientation may require workers to bend their wrists. If workers are wearing wrist splints, they may have to use more force to work against the brace. This is not only inefficient, it may actually increase the pressure in the carpal tunnel area, causing more damage to the hand and wrist." (Ex. 26-1424).

Because these devices are used for treatment after an injury has occurred and because they are not intended to reduce exposure, OSHA finds that it would be inappropriate to consider back braces or wrist braces/splints as PPE under the final standard.

Paragraph (m)—What Steps Must I Take to Reduce MSD Hazards?

Paragraph (m) of the final rule establishes the steps employers must follow to reduce the MSD hazards in their jobs. The employer's obligation to control these hazards is established in paragraph (k); this paragraph (m) sets out the procedures to be followed and the timelines to be met to achieve the necessary hazard reduction.

The procedures in paragraph (m) are similar to those in proposed § 1910.919,

although they have been revised in the final rule to reflect the Action Trigger and to state what employers must do if the controls they have implemented are not effectively reducing MSD hazards. The steps specified in paragraph (m) are widely recognized as basic procedures in effective control selection and problem-solving. For example, the NIOSH publication, *Elements of Ergonomic Programs*, describes a similar process (Ex. 26-2). Paragraph (m) also sets the deadlines for the implementation of initial and permanent controls to reduce MSD hazards. OSHA received very few comments on the proposed control steps provision.

The corresponding provision in the proposal also contained a requirement that employers identify and evaluate MSD hazards when they changed, designed, or purchased equipment or processes in problem jobs. The final rule contains no similar requirement.

OSHA does not believe that a separate provision is necessary, because the final rule includes a "feedback" loop between paragraph (m)(4) of the rule and paragraphs (m)(1) and (m)(2). OSHA received only one comment on this proposed provision (Ex. 32-300-1). This commenter asked whether OSHA intended this provision to be similar to the management of change provision in the Process Safety Management standard (29 CFR 1910.119). Since this proposed provision has not been carried forward in the final rule, the issue raised by this commenter is moot.

Paragraph (m)(1)—Ask Employees

This paragraph requires employers who have determined that they have a problem job to ask the employees in the problem job, and employee representatives, to recommend measures to reduce the MSD hazard in the job. This provision is essentially unchanged from the proposal, except that employee representatives are mentioned specifically in the regulatory text, which reflects OSHA's decision to add this language to provisions of the regulatory text where the involvement of employee representatives is particularly important. Several commenters (see, e.g., Exs. 32-339-1, 32-182-1) urged OSHA to include employee representatives in this step of the hazard identification and control process because of the contribution they could make. OSHA agrees and has revised the text accordingly.

Asking employees and their representatives for recommendations of controls that will reduce MSD hazards is an effective and efficient way of solving ergonomic problems. Many

commenters (see, e.g., Exs. 3-112, 3-164, 30-3765, 30-3748, 500-137, 500-220) reported that the employees who are doing the job are usually the best source of information on the tasks causing the hazard and ways of solving the problem. For example, the American Health Care Association stated:

Employers and employees who work in the industry are in the best possible position to identify risk factors in their workplace and to develop prevention methods that concentrate on the significant problems unique to their particular industry's environment (Ex. 3-112).

In many problem jobs, employees and their representatives will be able to pinpoint the problem quickly and to suggest easily adopted controls. In many cases, the solution will become obvious at the job hazard analysis stage; many problems also can be addressed with simple, off-the-shelf controls. Examples are:

- Eliminating awkward postures (such as bending when leaning across the workstation to reach a tool) by putting blocks under a work bench to raise the work surface height.
- Eliminating awkward postures of the neck and reducing stress on the back by putting packages of copy paper under a VDT monitor to raise it or taking the VDT off the CPU to lower it.
- Reducing awkward postures of the neck by moving the light source or removing the light bulbs that were causing glare on the VDT monitor screen.
- Reducing force by cleaning thread from the wheels of a cart that has been hard to push. (Many of these controls would qualify for the Quick Fix option (see paragraph (o)).

Some commenters (see, e.g., Tr. 63354, 9038, 12647), however, were concerned that consulting with employees and their representatives could lead to disagreements about the controls selected. OSHA's experience, and comments to the record (see, e.g., Exs. 3-112, 26-5, 30-3765, 30-3748, 500-137, 500-220, 500-218), do not suggest that this is a problem. Instead, these commenters point to the value of employee input. OSHA expects, however, that employers will use their management experience and judgment to resolve any disagreement that may arise. As is the case for all OSHA standards, the employer is clearly responsible for selecting controls and evaluating their effectiveness.

Another commenter (Ex. 32-300-1) argued against involving employees in the problem-solving and control identification process on the grounds that doing so might disappoint the employees if their suggestions were not

taken. OSHA's experience suggests just the opposite, i.e., that nothing disappoints employees more than not being part of a process that affects their working conditions so directly. Some employers also report that they bring their in-house resources (ergonomics committee members, safety and health professionals, ergonomists) into the process at this stage (see, e.g., Exs. 26-1370, 502-17).

Paragraph (m)(2)—Initial Controls

This provision requires employers to identify and implement initial controls (referred to as "interim" controls in the proposal) to reduce MSD hazards within 90 days of the time the employer determines that the job is a problem job. Because the final rule allows employers to choose from engineering controls, administrative controls, work practice controls, and—as a supplement to these controls—personal protective equipment, OSHA believes that employers will be able to meet this timetable, which is essential to the protection of employees in problem jobs. OSHA anticipates that many employers, particularly those whose jobs can be controlled with off-the-shelf controls, will simply implement permanent controls within 90 days and be done with it. Others, however, will develop a plan and timetable for permanent control implementation and may need the full 4 years (2 years after the standard has been in effect for some time) to reach the control levels specified in paragraphs (k)(1) or (k)(2) of the final rule.

For these employers, the implementation of initial controls will generally mean a greater reliance on administrative controls, work practices, and, in those situations where personal protective equipment is effective, on PPE, in the period between the 90-day deadline in paragraph (m)(2) and the permanent control compliance deadline in paragraph (m)(3). OSHA recognizes that initial controls may not, in all cases, reach the control levels required by paragraph (k)(1) or (k)(2) for permanent controls; nevertheless, employers are required to make good faith efforts to address problem jobs promptly to protect the employees in them.

OSHA expects employers to implement initial controls that will substantially reduce employee exposure to the risk factors that are contributing to the MSD hazard. For example, employers might provide employees required to manually carry loads from one point to another with a cart or a hand dolly as an initial control, or they might reduce the weight of the object

being carried while waiting to install a permanent conveyor system. In other cases, an employer might decide to implement a system of employee rotation while waiting to install new power tools throughout the plant. Other examples of controls employers often implement initially and then replace with more permanent controls later are the provision of tools with longer handles when excessive reaching is involved, anti-fatigue mats and sit-stand stools when excessive standing is the problem, and vibration-reduction gloves while waiting for new power tools with lower vibration levels to be installed. By substantial reduction, OSHA means that the initial controls must reduce the MSD hazard materially by decreasing the magnitude, frequency or duration of the employee's exposure to the relevant risk factors. Examples of controls that would not meet the employer's obligations under paragraph (m)(2) would be decreasing the weight of a package that is manually lifted from 90 to 85 pounds (because both weights substantially exceed the weight an employee should lift alone) or rotating employees into a second job that has the same risk factors (because this would not reduce the magnitude or duration of exposure).

The purpose of paragraph (m)(2) is to ensure that the employer takes steps quickly (*i.e.*, no more than 90 days after the job is identified as a problem job) to reduce the exposures of at-risk employees (*i.e.*, those in jobs that have identified MSD hazards). Waiting until permanent controls are installed, which may take as long as 4 years, would leave these employees unprotected and increase the likelihood that another MSD incident will occur. The concept

of initial controls (interim controls) is a well-established principle of worker safety and health protection and is incorporated in many OSHA standards, as one commenter noted (Ex. 26–1370).

Paragraph (m)(3)—Permanent Controls

This paragraph requires employers to identify and implement permanent controls that will achieve the hazard reductions required by paragraphs (k)(1) and (k)(2) of the standard. This provision is essentially unchanged from the proposal, except that it has been revised to reflect the final rule's objective compliance endpoints and the function of the action trigger.

There are many ways employers can identify permanent controls in addition to asking employees and their representatives for control ideas. These include:

- Asking other establishments in the company how they have solved a similar problem; many companies with OSHA corporate-wide settlements have found this approach useful (see, *e.g.*, Ex. 32–185–3).
- Asking the industry trade associations for suggestions (the food retail industry, for example, worked as a group to reduce package weights (Tr. 4948).
- Attending ergonomics conferences and trade shows.
- Talking to the company's insurance agent about solutions that have worked for other companies.
- Reviewing equipment catalogs (one commenter reported using this approach to identify mechanical alternatives to drum handling (Tr. 6981)).

Several commenters stated that employers are best positioned to choose their own sources of control information and ideas (see, *e.g.*, Exs. 30–434, 30–

240, 30–133, 30–3122, 30–3284, 32–300–1), and OSHA agrees, except that employees in the problem job and their representatives must also be involved in the process, as required by paragraph (m)(1).

Employers have many control strategies to choose from when identifying permanent controls. The controls selected may be any one, or any combination of, engineering, work practice, or administrative controls. These controls may be supplemented by PPE, but PPE may not be used alone unless other feasible controls are not available (see paragraph (l) of the standard). Among the factors employers consider when selecting controls are:

- Which control achieves the greatest reduction in employee exposure to the MSD hazard
- Which is likely to be accepted and used by employees
- Which takes the least amount of time to implement
- Which achieves a substantial reduction in exposure at the lowest cost.

These criteria are included as examples only; the standard does not require employers to use these criteria because OSHA recognizes that employers will choose those factors to consider that are most appropriate to their workplace. The following chart lists many controls that may be appropriate to reduce employee exposure to the risk factors that are responsible for MSD hazards, depending on the circumstances of a particular workplace. This list is illustrative only; it is not exhaustive but is provided merely to show that there are often many different control approaches that will reduce the magnitude, duration, or frequency of risk factor exposure.

Ergonomic risk factors that may be present	Examples of controls
Force (Exertions)	Use powered tools Change pinch to power grip Use longer handle Use appropriate size handle Use powered lift assist Counterbalance the weight Use lift tables Reduce the weight of the object Ensure that the center of gravity of the tool is over the hand Use a fixture, clamp or jig Provide periodic tool or equipment maintenance
Force (Manual Handling)	Lighten the load Use lift assist Use lift table Place package in larger containers that are then mechanically handled Use two-person lift team Rely on gravity to move the object Reduce friction when objects must be pushed or pulled Reposition object closer to the employee Provide pallet or table that can be rotated

Ergonomic risk factors that may be present	Examples of controls
Force (Manual Handling)	Provide space so that the employee can move closer to the object Reduce the size of the object Slide the object closer before lifting Place objects to be lifted above floor level Use adjustable height tables Store heavy objects at waist height Put handles on the object Modify the process to eliminate or reduce moves over a significant distance Convey the object (e.g., conveyor, ball casters, air) Use fork lifts, hand dollies, or carts Use appropriate wheels on carts (and maintain the wheels) Provide handles for pushing, pulling or carrying Arrange workstation so that work is done in front of the worker Use conveyors, chutes, slides, or turntables to change direction of the object Provide belt with handholds to assist in moving patients Provide gloves that assist in holding slippery objects Redesign the handling job to avoid movement over poor surfaces Use surface treated with anti-slip material or anti-skid strips Provide footwear that improves friction
Awkward posture	Provide workstation adjustability Raise/lower the worker's position Raise/lower the workstation Provide better mechanical advantage, such as with a longer handle Design task for smooth movements Redesign the flow of the workplace layout Reposition object to allow for a neutral posture Train workers to use less stressful postures Provide better access to machinery Rotate pallet or work surface Allow short breaks Position work in front of the worker Use a tool to extend the reach Provide lumbar support for a seated worker Provide workstation adjustability Provide tool holders Provide a strap on the tool handle to allow the hand to relax while maintaining control Provide sit/stand workstations Rotate workers to jobs that do not involve the same posture Provide anti-fatigue mats Provide foot rests
Repetition	Use power tools Distribute the work so that less time is spent at repetitious tasks
Contact stress	Attach a well-designed handle to the tool Wrap or coat the handle with cushioning and non-slip material Provide a handle that does not press into the palm Wear knee pads or palm pads Use a soft mallet for hand hammering
Vibration	Use low vibration tools Isolate source of vibration from the worker Maintain tools regularly

The final rule allows employers coming into compliance with the standard initially to take up to 4 years, if necessary, to implement permanent controls; this period is reduced to 2 years for employers who identify problem jobs more than 2 years after the standard's effective date. Several commenters (see, e.g., Exs. 32-339-1, 32-185-3, 32-210-2, 30-3815, 32-368-1) were concerned with the proposed compliance deadlines for the implementation of controls. The final rule has extended the permanent control deadline to 4 years from the standard's

effective date; this phase-in drops to 2 years after the standard has been in effect for 2 years. For OSHA's responses to the record on compliance deadlines, see the Summary and Explanation for paragraph (x). OSHA believes that these control implementation deadlines will provide smaller employers, and employers with more complex control requirements, the time they need to plan for, obtain, and implement permanent controls.

Paragraph (m)(4)—Track Progress

Paragraph (m)(4) of the final rule requires employers to make sure that the controls they have identified and implemented are reducing MSD hazards and have not unintentionally created new MSD hazards. This paragraph has been revised from the proposal to include additional steps employers must take if they discover that their controls are not achieving the levels required or have introduced new MSD hazards. The proposal, in contrast, simply required employers to track their progress but did not specify what they

were to do if their controls were not working as planned.

OSHA believes that this paragraph is essential, for several reasons. First, unless employers follow up on their control efforts, they will not know whether they are protecting their employees and are in compliance with paragraphs (k)(1) or (k)(2) of the rule. Second, in establishments with many problem jobs and a job prioritization plan in place, ascertaining the effectiveness of controls is important to ensuring that the employer's abatement strategy is an effective one. Third, control effectiveness is the basis of any effective program, and thus plays a critical role in evaluating the elements of the program. For example, an evaluation of work practice controls is an excellent way of determining whether training in these controls has been effective.

This step of the control monitoring process requires employers to consult with employees in the problem job and their representatives to ensure that the controls have been effective in reducing the physical difficulties employees associated with the job. The standard does not require employers to use quantitative or qualitative measures to evaluate control effectiveness, but many employers use such methods. Examples of before-and-after approaches used over a longer (*i.e.*, 6-month) period include:

- Reductions in severity (measured as fewer days away from work)
- Reductions in the number of symptoms reported in a symptoms survey
- Reductions in workers' compensation costs
- Reductions in MSD incidence rates.

Methods used in shorter-term evaluations, *i.e.*, those conducted within 30 days, include talking with employees and their representatives and symptoms surveys. NIOSH (Ex. 26-2) recommends that employers wait at least 2 to 4 weeks after control implementation to assess the effectiveness of controls, because this period of time is often enough to allow employees to tell whether the situation has improved.

OSHA believes that the process of hazard identification, control selection, and control evaluation has been greatly facilitated by the fact that the final rule identifies objective criteria against which employers can measure the extent of the risk factors present and the effectiveness of their efforts to control or reduce the hazard. Employers are not required to use the hazard identification tools referenced in Appendix D-1 or provided in Appendix D-2, but they are free to do so. OSHA believes that employers will generally find that the

greater certainty that results from the appropriate use of these tools enhances their ability to protect their employees and increase the employer's confidence that the standard's control endpoints are being met.

Paragraph (o)—May I Use a Quick Fix Instead of Setting up a Full Program?

Paragraph (o) of the final rule sets out alternative provisions that employers may follow in lieu of setting up a full ergonomics program. These alternative provisions are referred to as the Quick Fix approach. The Quick Fix option allows employers to control an MSD hazard quickly and more informally without, for example, conducting a complete job hazard analysis, setting up a training program or a periodic program evaluation process.

OSHA has included a Quick Fix option in this standard to provide compliance flexibility for those employers who have:

- Only a few isolated MSD hazards (that is, they have had one prior MSD incident in any job in which an MSD incident is reported after the effective date and only 2 prior MSD incidents in the workplace during the 18 months before the new MSD incident is reported), and
- MSD hazards that can be identified easily and addressed quickly (that is, they can fix the job within 90 days after the MSD incident is determined to meet the Action Trigger).

OSHA believes that the Quick Fix option is an efficient mechanism for providing ergonomic protection for employees, while at the same time reducing regulatory burdens for those employers who have only a few isolated problems.

The proposed rule also included a Quick Fix provision, which a number of commenters supported (*e.g.*, Exs. 30-3813, 30-3436, 32-210-1, 30-294, OR 326, 500-218, Tr. 2134, 13642). For example, one commenter stated, "I think that the Quick Fix is an outstanding idea that will reduce the burden of this standard for many companies" (Ex. 30-3436). Portland General Electric Company agreed:

We believe that the *Quick Fix option is extremely valuable*. We operate on a system of early reporting and *effective individual case management*, to the benefit of both the employee and the company (Ex. OR 326).

Some employers said that they had implemented types of Quick Fix approaches in their workplaces (*see, e.g.*, Exs. OR 326, Tr. 14715-16).

A number of commenters maintained that the Quick Fix would not be helpful or would not work. For instance,

Integrated Waste Services Association said: "While the 'quick fix' idea sounds reasonable, quickly 'fixing a problem job' is unrealistic and illusory" (Ex. 30-3853). Some of these commenters said the Quick Fix approach would not reduce regulatory burdens for employers (*see, e.g.*, Exs. 30-3853, 30-2988, 30-3815). And the National Association of Manufacturers (Ex. 30-3815) said that the Quick Fix "is next to meaningless for an establishment of any size."

Other commenters were more optimistic about the Quick Fix concept, but said that changes were needed to make it more useful for employers. Kaiser Permanente, for instance, supported the Quick Fix idea as a "practical and cost effective idea" in principle, but argued that the proposed provision was too limited and too vague to be workable (Ex. 30-3934). Others said the proposed Quick Fix offered an "inappropriately narrow opportunity" and urged OSHA to allow more abatement time and allow more than one Quick Fix in any one job (Ex. 30-2988, 500-145). Some commenters, however, argued that allowing more than one Quick Fix in a job was not protective enough (*see, e.g.*, Ex. 30-2825, 32-182-1). In addition, AFSCME opposed extending the Quick Fix option this way because it would be "encouraging a piecemeal and disjointed approach to ergonomics" (Ex. 32-182-1).

On the other hand, some commenters were concerned that the proposed Quick Fix was not adequately targeted to those workplaces where such an approach would be appropriate. The AFL-CIO said:

In our view, the quick fix provisions proposed by OSHA are more properly suited to those workplaces where the number of jobs with MSD hazards is limited and where there are few MSDs. In those situations, focused efforts to identify and correct hazards quickly may be the best solutions, and a full ergonomics program may not be needed (Ex. 32-339-1).

The AFL-CIO and others also identified specific high hazard workplaces in which the Quick Fix would not be appropriate, such as nursing homes, warehouses, automotive assembly plants, and meatpacking and poultry processing plants (Exs. 32-339-1).

OSHA has made a number of changes to the Quick Fix provision in this final standard to address these concerns. These changes include:

- Focusing the Quick Fix more carefully on those employers with limited MSD problems by specifying that it applies where there have been

only 2 prior MSDs in the workplace in the past 18 months,

- Providing clearer criteria for hazard identification and control (*i.e.*, the Basic Screening Tool) and compliance “endpoint” (*i.e.*, the levels in Appendix D),
- Ensuring that employees receive training in using the implemented controls so that the Quick Fix is more likely to be successful, and
- Simplifying the criteria for determining whether a Quick Fix has been successful or has failed.

Paragraph (o)(1)

Paragraph (o)(1) defines which employers may avail themselves of the Quick Fix approach instead of implementing a complete ergonomics program. Employers may use the Quick Fix approach if, within the last 18 months:

- No more than 1 prior MSD incident has occurred in the job in which another MSD incident is reported, and
- There have been no more than 2 prior MSD incidents in the workplace as a whole.

This represents a change from the proposed rule, which would have allowed employers to use Quick Fix option in every job in the workplace, but only for the first MSD incident in that job.

OSHA believes that the changes in the final rule provide more compliance flexibility, and thus will allow more employers to take advantage of the Quick Fix option. First, changing the Quick Fix provision to allow employers to use it 2 times in the same job makes the option available for more jobs. Allowing 2 Quick Fixes in one job recognizes, as Kaiser Permanente pointed out, that the occurrence of a second MSD in the same job may not necessarily mean that a previous control measure has not worked, but rather that a different combination of risk factors may be present (Ex. 30–3934):

[T]he conclusion in the proposed rule that the “Quick Fix does not work” if another MSD is reported in the same job within 36 months * * * wrongly assumes that the same fix should work for the same physical work activities and conditions. The fix that works for one employee’s condition may not work for another because of that employee’s physical characteristics or non-work related contributing factors. A second or third MSD in the same job does not mean the initial quick fix did not work, and employers should have the option to apply a quick fix to newly reported MSDs (Ex. 30–3934; see also Exs. 30–2088, 500–215).

Second, not restricting the 2 MSD incidents to ones caused by different risk factors, as the proposed rule would

have done, will also make the Quick Fix option available to more jobs. Eliminating this restriction on the second MSD incident also addresses commenters’ concerns that this provision was not clear enough to be workable (see, *e.g.*, Exs. 30–1349, 30–358, 30–595, 30–538, 30–323, 30–1022, 30–1551, 30–3745, 30–3723).

Third, halving the Quick Fix time frame to 18 months should make the Quick Fix option available to more employers because MSDs that occurred several years ago would not disqualify employers from using the Quick Fix option. In addition, it makes the Quick Fix option more attractive, as Kaiser Permanente noted:

[F]or large employers, tracking MSDs to determine whether another covered MSD is reported in the same job within 36 months would be cumbersome (Ex. 30–3934). Organization Resources Counselors, Inc. (ORC), agreed:

The proposed requirement that the employer establish a full ergonomics program if another similar MSD occurs in the job within 36 months is too rigid because the occurrence of MSDs is so closely related to individual worker characteristics. If the employer determines that additional feasible controls will eliminate the significant risk from that job for that worker, another quick fix should be permitted (Ex. 30–3812).

OSHA estimates that these changes should allow a large percentage of jobs, as high as 25 percent of all jobs meeting the Action Trigger, to be controlled using a Quick Fix. (See Chapter V of the Final Economic Analysis).

At the same time, limiting the Quick Fix option to employers who have only 2 MSDs in their workplace during the prior year and a half also helps to target more precisely the provision to those workplaces that have only isolated MSD problems. OSHA agrees with commenters that where only a few MSDs are occurring, employers may be able to address the problems effectively in an informal way, but that the occurrence of several MSDs in a workplace in just over a year “may be indicative of a bigger problem” that requires a more systematic approach to adequately address (Ex. 32–210–2).

Although OSHA believes that targeting the Quick Fix to workplaces with few isolated MSD hazards will likely make the option most useful to small businesses, larger employers may also find the Quick Fix a useful mechanism. For example, large employers who have ergonomics programs in some jobs would be free to use the Quick Fix option if an MSD hazard were identified in another job.

Paragraph (o)(2)

Paragraph (o)(2) of the final rule sets up the process that employers using the Quick Fix option must follow. Employers must use this process to fix the injured employee’s job and all “same jobs” in the establishment. Although this process is informal and flexible, it nonetheless includes those basic steps that employers who have Quick Fix or “quick response” processes use (Ex. 32–198–4–27–1). This process includes:

- Providing prompt MSD management to the injured employee (paragraph (o)(2)(i));
- Talking with employees to identify those tasks they associate with the MSD incident (paragraph (o)(2)(ii));
- Observing employees performing the job to identify the risk factors likely to have caused the MSD incident (paragraph (o)(2)(iii));
- Asking employees for their ideas for reducing exposure to the MSD hazards (paragraph (o)(2)(iv));
- Implementing measures within 90 days to control or reduce the MSD hazards (paragraph (o)(2)(v));
- Training employees in using the controls implemented (paragraph (o)(2)(vi)); and
- Keeping records of the Quick Fix (paragraph (o)(2)(vii)).

These provisions of the final rule are similar to steps in the proposed Quick Fix, although they have been revised in some respects to respond to comments received.

Same Jobs

Also similar to the proposed rule, those employers who qualify for and select the Quick Fix option must fix not only the injured employee’s job but also all other “same jobs” in the establishment. This requirement applies both to employers using the Quick Fix and to those who must implement ergonomics programs. Several commenters objected to requiring employers to apply the Quick Fix beyond the injured employee’s individual job (see, *e.g.*, Exs. 30–2208, 30–2725, 30–3745, Tr. 9183). Some said having to fix all same jobs was not necessary and would impose excessive cost. For example, the Center for Office Technology (Ex. 30–2208) stated:

The Quick Fix section is worded so that if one office worker is experiencing discomfort and his workstation is changed—the example given is purchasing an adjustable workstation for a VDT operator—all the “same job” employees at that worksite would also have to get an adjustable workstation when in fact no other employees may need them.

OSHA believes this requirement is necessary because it helps to ensure that

other employees performing the same physical work activities and exposed to the same MSD hazards are provided with protection before they too get hurt. In this sense, the "same job" requirement helps to make the final rule more proactive and preventive. OSHA believes that controlling other same jobs will also be cost-effective for employers because it is only a matter of time, in jobs meeting the Action Trigger, until another MSD incident occurs.

For several reasons, OSHA does not believe that the "same job" requirement will impose an undue burden on employers. First, OSHA believes that the number of "same jobs" in the establishments likely to use the Quick Fix option will be small, because OSHA believes that many qualifying employers will generally be small businesses. Second, the final rule allow employers to limit the Quick Fix to the injured employee's job where the employer has reason to believe that the risk factors in the job only pose a problem to the injured employee. (See note to paragraph (j).) Thus, if the case referred to by COT (Ex. 30-2208) meets the requirements described in the note to paragraph (j), the employer would only be required to fix that employee's job. This provision was included in the proposed rule, and a number of commenters supported it, saying that such an exception was needed because the individual characteristics of one worker may require controls that don't work for or are not needed by other workers (see, *e.g.*, Exs. 30-3745, 30-358).

Finally, even where there are "same jobs" that also must be Quick Fixed, OSHA does not believe that the Quick Fix process will be burdensome for employers. The Quick Fix process is very informal and thus provides employers with great flexibility in complying with each step in the Quick Fix process. In addition, the final rule allows employers to include a sample of employees, rather than all employees in the same jobs, in the hazard identification and solution consultation process. OSHA agrees with commenters that allowing employers to rely on a sample of the employees who are likely to have the greatest risk factor exposure in the job should help reduce burdens for large employers and for employers with many employees in the same job (Ex. 30-2208).

1. Provide MSD Management

Like employers who must implement an ergonomics program, employers who select the Quick Fix option must provide the injured employee with prompt MSD management after they

have determined that an MSD incident has occurred and the job meets the Action Trigger. This includes providing the injured employee with access to an HCP and work restrictions during the recovery period, if necessary. Where work restrictions are needed, employers who select the Quick Fix option also must provide the work restriction protection (WRP) that this standard requires. (For further discussion of MSD management requirements, see summary and explanation for paragraphs (p), (q), (r), and (s) below.)

2. Talk With Employees

Paragraph (o)(2)(ii) requires that, as part of the process of identifying the MSD hazards, employers using the Quick Fix option must at least to talk with the employees in the job (and their representatives). The purpose of this consultation is to ensure that employers ask those who know the most about the job—those that perform it—for their help in identifying the physical work activities and job conditions that they believe are mostly likely to be associated with the MSD incident. OSHA believes that including this step in the Quick Fix process will help employers more quickly and fully identify the problem so they will have the chance to fix the problem within the Quick Fix deadline.

Many commenters agreed with the importance of including employees in the hazard identification process (see, *e.g.*, Exs. 500-200, 500-215, 30-1100, Tr. 3565). The record consistently shows that employers with effective ergonomics programs consult with their employees because employees know what tasks are contributing to their MSD signs and symptoms and because they often have the best and least expensive ideas for solutions (Exs. 30-1100, 500-200, 500-215, Tr. 14903, Tr. 3062). Talking to other employees who perform the same job as the injured employee also provides employers with an opportunity to identify the problems with the job more fully, and this, in turn, will help ensure that the right solutions will be found to address the problem.

3. Observe the Job

Paragraph (o)(2)(iii) specifies that employers must observe employees performing the job to identify the MSD hazards that caused the MSD incident. This step helps to ensure that nothing has been overlooked in the discussion with employees. In addition, as several commenters have pointed out, often problems in jobs become readily apparent as soon as the person responding to the report has an

opportunity to watch employees performing the job (Exs. 30-3436, 26-2, Tr. 1038).

To provide employers with maximum flexibility in complying with this step, paragraph (o)(2)(iii) allows employers to select the method of job observation that works best for the conditions in their workplace. For example, employers may simply watch employees perform the job; videotape the job; or use a simple checklist, such as the VDT checklist in Appendix D-2 or checklists similar to the one developed by the Dow Chemical Company (Ex. 32-77-2-1). In addition, employers are free to determine in what order they want to conduct the steps of the Quick Fix process. Some commenters said that they observe the job first as a way to better focus their discussions with employees.

4. Ask Employees for Solutions

Paragraph (o)(2)(iv) specifies that employers using the Quick Fix option must ask employees in the problem job for their ideas to fix the job. OSHA has included this step in the Quick Fix process because time and again employers have said that their employees often come up with the best and least expensive solutions to problems (Tr. 8725, 1160, 9508). For example, PPG stated that:

We [management] do not have to look over their shoulders to make sure that they are implementing every—dotting every I. And it is a successful program. Essentially, the workers run it (Tr. 3062).

This step also was included in the proposed Quick Fix. Some commenters asked OSHA to clarify whether employers were obligated to implement the recommendations that employees make (Ex. 30-595). The requirement that employers ask employees for their recommendations does not limit them to implementing only those solutions recommended by employees. OSHA expects employers to use their judgment when responding to employee suggestions and to select controls that will achieve the reduction in MSD hazards mandated by the rule. OSHA notes that the records shows that employee suggestions for ergonomic improvements are often both practical and effective.

5. Implement Controls Within 90 Days

Paragraph (o)(2)(v) of the final rule requires employers, within 90 days, to implement measures that either:

- Control the MSD hazards (*i.e.*, reduce hazards to the extent that they are no longer reasonably likely to cause MSDs requiring days away, work restrictions or medical treatment), or

- Reduce the hazards to the levels indicated in the appropriate hazard identification tool in Appendix D.

Employers must put controls into place within 90 days of the time the employer determines that the job meets the Action Trigger. Employers are free to use any combination of engineering, work practice or administrative controls to fix the job. As part of the Quick Fix, employers must also train employees how to use the controls that have been implemented.

Implement Controls

The proposal would have allowed employers to use the Quick Fix option only where they could "eliminate MSD hazards," which was defined as controlling physical work activities and conditions to the extent that an MSD was not reasonably likely to occur, which was a higher level of control than for employers who were implementing full ergonomics programs. Several commenters opposed the proposed Quick Fix control endpoint, generally saying that it was either too vague to be workable or impossible to attain (see, e.g., Exs. 30-4290, 30-3812, 30-2208, Tr. 2998, 8394, 9182). The comment of ORC was typical of this opposition:

One fundamental change that must be made to this provision is the revision of the proposed requirement to eliminate MSD hazards; the formulation is problematic and may be legally impermissible. It is well established that employers may only be required to take technologically and economically feasible abatement measures. The second problem is that employers cannot be required to establish a risk-free environment, so that to the extent that the terms "eliminate MSD hazards and eliminate employee exposure" suggest that an employer must go beyond reducing the significant risk of harm in a particular instance, these terms must be revised and clarified (Ex. 30-3812).

OSHA believes that the changes in this provision address the commenters' concerns. The final rule's Action Trigger helps to ensure that employers will only have to take action in higher-risk jobs. As mentioned in the summary and explanation for paragraph (f), jobs that meet the Action Trigger (*i.e.*, exceed the exposure levels in the Basic Screening Tool) are ones that generally pose a risk of MSDs that is three times higher than those that do not. Second, the control endpoints employers must meet under the Quick Fix option do not require the elimination of all risk. For example, employers will be considered in compliance with the Quick Fix control requirement if they reduce exposure levels to below those in Appendix B of Washington State's ergonomics rule. The acceptable exposure levels in the

Appendix B are almost twice as high as those in the Basic Screening Tool. Thus, the standard does not require employers to achieve a "risk-free environment." Third, the Quick Fix now contains more specific criteria for identifying and controlling hazards so that employers more clearly understand when a hazard is present and when they have done enough to fix the job. Thus, the final rule is not requiring employers to take "technologically or economically" infeasible abatement measures.

90-day Control Time Line

The final rule continues the proposed 90-day time line for implementing Quick Fix controls, but now specifies that the time begins to run only after the employer has determined that the job in which the MSD incident occurred meets the Action Trigger. Comments on the proposed 90-day time line were mixed. Some commenters testified that many MSD hazards can be controlled quickly (see, e.g., Exs. 30-3813, 30-3436, 32-210-2, 30-294, Tr. 13642, Tr. 2134), while others said that controls, especially engineering controls, could not be implemented in 90 days (see, e.g., Exs. 30-3815, 30-240, 31-307, Tr. 4628, 30-3853, 30-1091, 30-1048). As a result, some commenters requested that OSHA provide extended abatement time for employers who could not implement Quick Fix within the allotted time frame (Ex. 30-3853).

For several reasons, OSHA believes that the Quick Fix deadline should not be extended. First, OSHA believes that extending the deadline negates the principle underlying the Quick Fix concept. Second, OSHA believes that controls that take longer than 90 days to implement indicate that the problem may be more complex than originally anticipated, and therefore, may more appropriately be addressed in the context of a comprehensive ergonomics program.

Third, OSHA does not believe that extending the 90-day Quick Fix deadline is necessary, because the record shows that there are many controls that can be implemented quickly to control or reduce MSD hazards. Many of these are obvious and low-cost fixes that can be made to workstations (e.g., raising or lowering work surface or chair, placing equipment directly in front of an employee to eliminate extended reaches or awkward postures, providing a platform or box to stand on as a way to eliminate overhead reaching, putting reams of copy paper under a monitor as a way to eliminate awkward neck postures), tools or equipment (e.g., servicing of powered hand tools,

changing the way bags move on a conveyor), and work schedules (e.g., rest breaks, job rotation, job enlargement) (see, e.g., Tr. 2147, 6510). One participant discussed the effectiveness of these types of Quick Fix adjustments in office environments:

If you're looking, say, at the office environment, the quick fix situation is very often the one that's there in any case, because you're looking at people who need improvements to their posture and so on and so forth. And very often, the whole work environment is already there to be adjusted. It just needs a quick-fix, which in this case is often training and showing people how they should be adjusting their workstation for their particular tasks. So very often, in the office environment, the quick fix is the only way to do it. (Tr. 2707)

The record also includes information on a wide variety of inexpensive "off-the-shelf" controls and technology that can be put into place quickly. Some of these measures include telephone headsets; foot rests; "anti-fatigue" mats or other cushioned surfaces; monitor risers; wider grips for hand tools; knife sharpeners; and carts and other mechanical devices to assist with lifting, pushing, pulling and carrying tasks (Tr. 3946). According to David Alexander, a certified professional ergonomist and president of Auburn Engineers, one reason why "off-the-shelf" controls can be implemented so quickly and inexpensively is that they do not require "custom engineering" (Ex. 37-12). In addition, Mr. Alexander said that many of these controls can be easily identified and purchased by looking at equipment catalogs, calling regular vendors, contacting trade associations, and even searching the Internet (Ex. 37-7). For example, he said that the Job Accommodation Network, a free service offered by the President's Commission on Employment of People with Disabilities, has "a huge database of specific solutions to accommodation problems," many of which are also solutions to ergonomics problems, that are available to anyone who calls the network's toll-free number (Ex. 37-12). In addition, many other examples of quick and inexpensive fixes are in the cost chapter (Chapter V) of the final economic analysis.

Finally, the fact that employers are free to Quick Fix hazards using any combination of engineering, work practice and administrative controls also supports the 90-day time line. Administrative controls, in particular, should not take long to implement. And employers would be free to Quick Fix jobs with administrative controls initially and later substitute engineering controls when they become available.

In addition to requests for more time to Quick Fix jobs, at least one commenter urged OSHA to delay the start of the 90-day Quick Fix deadline until after the MSD incident has been confirmed by the employer's HCP and perhaps even an "independent" HCP, the employee's medical history has been evaluated, and diagnostic measures have been conducted (Ex. 30-3853). Paragraph (e) already allows employers to consult with an HCP in determining whether an MSD incident has occurred. In addition, after that determination is made, employers have another 7 days in which to determine whether exposure levels in the job exceed the levels in the Basic Screening Tool before the 90-day control time begins to run. Nonetheless, OSHA believes that, in the overwhelming number of cases, employers rather than HCP's will make the determination about the work-relatedness and seriousness of the reported MSD, as they have done for years in the context of the recordkeeping rule. Therefore, OSHA does not believe that initiation of the control implementation deadline needs to be delayed.

Finally, one commenter asked OSHA to clarify whether the Quick Fix option could be used in jobs that do not last for 90 days (Tr. 12179). OSHA is not clear whether the commenter was referring to (1) the same short duration job that is repeated (e.g., seasonal work, temp agency work assignments) or (2) one-time job of short duration (e.g., special project). OSHA realizes that where an MSD occurs toward the end of a short duration job that there may be some limits on what measures the employer may be able to take, that is, the employer may not have enough time to fully implement either a Quick Fix or an ergonomics program. Nonetheless, the employer must still implement those measures, such as interim controls, that are feasible to implement during the remaining time. (See summary and explanation for paragraph (m) for discussion of the term "interim controls.") In addition, where the short duration job is repeated on some regular or foreseeable cycle, such as seasonal fish processing, each cycle is, in essence, a serial "same job." As such, in order for employers to use the Quick Fix option in these situations, they will be required to have controls in place before the next job cycle begins.

Control Training

As part of the requirement to fix jobs, paragraph (o)(2)(v) also requires employers to train employees in jobs that are Quick Fixed so that they know how to use the controls that have been

implemented. OSHA added this provision after commenters pointed out that Quick Fix controls may not be successful, and therefore employees may not be protected from MSD hazards, if they do not know how to use those controls correctly (see, e.g., Exs. 32-339-1, Tr. 6985). In fact, a number of employees who testified at the hearings reported that, although they had been provided with ergonomically appropriate controls (e.g., adjustable chairs), they had never been taught how to properly use or adjust the controls (see, e.g., Tr. 8461).

6. Check Success of the Controls

Paragraph (o)(2)(vi) requires employers, within 30 days after implementing Quick Fix controls, to review the job to determine whether the measures implemented have controlled the hazards or reduced them to the levels in Appendix D. An analogous provision also was included in the proposed rule. A number of commenters complained that a 30-day time line for checking the success of the Quick Fix controls was too short (see, e.g., Exs. 31-307, 30-240, 30-3815, 30-3853, 30-2988, 30-3934, Tr. 4628). For example, Kaiser Permanente said:

If a person has serious MSD symptoms, the symptoms may not subside in this short time. Kaiser Permanente recommends that OSHA modify the proposed Quick Fix deadline for elimination of the MSD hazard to 120 days from the date of implementation of the hazard controls.

Likewise, the Tennessee Valley Authority expressed concerns that 30 days might not be long enough to evaluate control effectiveness (Ex. 31-307).

For several reasons, OSHA believes that 30 days provides employers with sufficient time to check up on whether the controls have been successful. In its Elements of Ergonomics Programs, NIOSH said that evaluations of control effectiveness should be made within 2 to 4 weeks of control implementation. NIOSH's concern was not that 30 days was too short a period of time for conducting post-implementation followup, but rather with checking up on controls too quickly:

Because some changes to work methods (and the use of different muscle groups) may actually make employees feel sore or tired for a few days, followup should occur no sooner than 1 to 2 weeks after implementation, and a month is preferable. Recognizing this fact may help avoid discarding an otherwise good solution (Ex. 26-2).

At the same time, if controls are not working and the employer is allowed to wait for an extended period of time

before checking up on the job, the injured employee's condition may worsen. Retaining the 30-day followup helps to ensure that employers initiate further and more comprehensive action to prevent the employee from suffering permanent damage or disability. In any event, OSHA believes that the availability of various tools and checklists as well as the final standard's more clearly-defined control endpoints will make the control evaluation process easier and quicker.

7. Keep Records of the Quick Fix

Paragraph (o)(2)(vi) specifies that employers must keep records of their Quick Fixes for 3 years, or until replaced with updated records. Paragraph (v), however, limits the recordkeeping requirement to employers with 11 or more employees. This provision was included in the proposed rule. While some commenters agreed that such records were necessary (Ex. 30-710), several commenters opposed this requirement (see, e.g., Exs. 601-X-1, 30-3755, 30-1019, 30-294, 30-3745, Tr. 2983, Tr. 5758). Some said the recordkeeping requirement would be burdensome, especially for small businesses. The Office of Advocacy of the Small Business Administration (Ex. 601-x-1) submitted the following comment:

The Quick Fix option also limits the one small business exemption which exists within the ergonomics program standard proposal. This option states that an employer must keep records of the Quick Fix controls they implement, when they are implemented and the results of any evaluations. [The Office of Advocacy of the SBA] strongly recommends that the language within this option be clarified to indicate that employers with less than ten employees do not need to keep records for any provision in the standard. Without this clarification, the option is not a real one for small business and will have the [effect] of mandating compliance with the total rule for employers with less than ten employees.

Paragraph (v) of the final rule does not require employers with fewer than 11 employees to keep records, including Quick Fix records.

Other commenters said that the recordkeeping requirement added unnecessary complexity to the Quick Fix option. For example, Dow Chemical Company (Ex. 30-3755) stated:

The use of this provision should be such that it encourages its use in order to take advantage of the fact that it exempts an employer out of the full rigors of the ergonomic program rule. To insist on, for example, recordkeeping of the quick fix controls will be a disincentive to its use and thus may defeat its purpose. To require that such documentation be retained for three

years is absurd. [Dow] * * * suggests 45 days or until the "quick fix" is implemented and results validated.

OSHA believes that records are necessary where employers substitute one-time action for a comprehensive approach to controlling MSD hazards. First, the Quick Fix option does not include the "checks and balances" of a comprehensive program (*i.e.*, management leadership, employee training, and program evaluation). Second, employers who use this option will need these records to demonstrate that the Quick Fix process has been successful in controlling the hazards. In addition, employers themselves need records to be able to demonstrate that they continue to qualify for using the Quick Fix option. Finally, OSHA believes that keeping the Quick Fix records for just 3 years will not pose a burden for employers, especially since these employers will not have to put resources into keeping the other records that employers who have full ergonomics programs must maintain.

Paragraphs (o)(3) and (o)(4)

The last two provisions of the Quick Fix process provide that employers are not required to take additional action as long as the job hazards remain controlled or exposures do not exceed the levels in Appendix D. As long as these control levels are maintained, employers need only provide training in the use of the controls to new employees who are assigned to Quick Fixed jobs. If, however, hazards cannot be reduced to those levels within the Quick Fix time frame, or be maintained at those levels, employers must implement an ergonomics program in that job, *i.e.*, if more than one MSD incident has already occurred in the job. However, if this is the first Quick Fix in that job, the employer would be free to repeat the Quick Fix to see if a second effort might be more successful.

The proposed rule, on the other hand, would have adopted a "wait and see" approach, requiring employers to implement a full ergonomics program if it turned out that the controls did not eliminate the hazards with the deadline or if another MSD occurred in the job sometime during the following 36 months. The proposed rule would have provided one exception to moving onto a full ergonomics program in those cases where the second MSD incident in the job was caused by different risk factors.

Several participants commented on this proposed provision (see, *e.g.*, Exs. 30-3813, 30-3815, 30-710, 30-1107, 30-494, 30-4540, Tr. 14985). Most commenters (see, *e.g.*, Exs. 30-3813, 30-3815) argued that the 36-month "wait

and see" period was too long. OSHA has responded by reducing the "wait and see" period to 18 months. This means that employers continue to qualify to use the Quick Fix option if no more than 2 MSD incidents have occurred in the past 18 months. MSD incidents that occurred more than 18 months previously would not be considered in determining whether the employer could continue to use the Quick Fix option in that workplace.

MSD Management and Work Restriction Protection

Paragraphs (p), (q), (r), and (s) of the final rule set forth the final rule's requirements for MSD management and work restriction protection (WRP). These provisions require employers to set up a process to manage MSD incidents when they occur. OSHA's final rule requires that employers make MSD management available promptly to workers in jobs that meet the action trigger whenever an MSD incident occurs; provide this MSD management at no cost to the employee; provide temporary work restrictions and "work restriction protection", and provide a mechanism for multiple health care professional (HCP) review when health care providers disagree about the proper course of action the employer should take. The discussion of these sections is divided into two parts; the first section discusses MSD management, and the second, worker restriction protection and multiple HCP review.

MSD Management

Under the final rule, employers would be required to make MSD management available promptly whenever an MSD incident occurs; provide this MSD management at no cost to the employee; and evaluate, manage, and follow-up on the MSD incident. Specifically, employers are required by the final rule to:

- promptly provide effective MSD management at no cost to the employee,
- provide employees with access to a health care provider (HCP),
- provide work restrictions the employer or the HCP find necessary,
- provide the HCP with information about MSD management and the employee's job,
- obtain a written opinion from the HCP about the MSD,
- provide the employee with the HCP's opinion, and
- evaluate, manage and follow-up on the MSD incident.

The final rule's MSD management provisions are quite similar to the provisions in the proposed rule. The

final rule differs from the proposed rule section in the following ways:

- MSD management is provided under different circumstances (only when a worker has an MSD incident and the job rises above the action trigger),
- MSD management is no longer described as being for the purpose of "to prevent their (the employee's) condition from getting worse",
- the employer is not required to determine the need for work restrictions or other actions before consultation with a health care provider,
- the employer must provide slightly different information to the health care provider,
- the health care provider is not afforded a right to walk through the employers workplace,
- minor editorial changes to the numbering, language and sequence of the requirements to simplify the sections and reduce duplication, and
- changes to the work restriction protection (WRP) requirements reducing WRP payments from 6 months to 3 months, and allowing the use of sick leave during the WRP period.

These changes reflect OSHA's review and analysis of the many comments and other evidence in the record pertaining to MSD management, which are discussed below. OSHA also asked for input on several specific issues in Section XIV of the proposal, Issues on Which OSHA Seeks Comment. The comments provided in response to those questions are included in the discussion of the relevant issues below.

Is MSD Management Needed?

OSHA received many comments on the proposed MSD management section. Many commenters generally supported the inclusion of MSD management provisions in the standard (see, *e.g.*, Exs. 30-626, 30-651, 30-2387, 30-3033, 30-3034, 30-3035, 30-3258, 30-3259, 30-3686, 30-3813, 30-3826, 30-4538, 30-3934, 30-4159, 30-4468, 30-4536, 30-4538, 30-4547, 30-4549, 30-4562, 30-4627, 30-4776, 30-4777, 30-4800, 31-23, 31-31, 31-43, 31-71, 31-92, 31-105, 31-113, 31-150, 31-156, 31-160, 31-161, 31-163, 31-186, 31-229, 31-243, 31-259, 31-301, 31-309, 31-342, 31-345, 31-347, 32-182-1, 32-210-2, 32-339-1, 32-85-3, 32-111-4, 32-133-1, 32-450-1, 30-4468, DC 75, 30-1104, L-30-4860, 37-12, 37-28).

Several commenters stated that MSD management is an essential component of an ergonomics program. For example, Lieutenant Colonel Mary Lopez, of the Department of Defense, reported at the hearing that healthcare management (*i.e.*, MSD management) is a critical

element in any ergonomics program (Tr. 3221, Ex. 30-3826-14, 500-218). The 3M Company stated that "The need for effective MSD management is universally accepted" (Ex. 30-3185). Dr. Robert Harrison stated that "The medical and scientific literature and my own clinical experience confirm that MSD management is an essential part of an ergonomics program" (Ex. 37-12).

Evidence in the record shows that many companies, through early intervention and the effective management of MSDs, have achieved substantial reductions in the number and severity of MSDs, which have in turn, translated into less lost-work time, fewer lost-workdays, lower costs per case, and fewer workers' compensation claims (see, *e.g.*, Exs. 3-56; 3-59; 3-73; 3-95; 3-113; 3-118; 3-147; 3-175; 3-217; 26-23, 26-24, 26-25, 26-26, 30-3185, 500-20-3, 500-71-84, Tr. 14357, Tr. 14721, Tr. 17431). Representative of these comments, Dr. Colin Baigel of the Bristol Myers Squibb Company reported at the hearing that "[o]ne of our keys is early medical intervention with any sorts [of] symptoms or signs of physical illness" (Tr. 10516). He commented further that, in his company's program, they see and evaluate employees early, modify the workplace, and institute aggressive conservative treatment if necessary (Tr. 10516).

North Carolina State University discussed the consequences of not providing prompt MSD management, stating that "I know of employees who were ordered by a non-medical supervisor to get back to work after an injury—in each case the lack of immediate medical care exacerbated their conditions" (Ex. 31-163).

Several commenters recommended that OSHA strengthen the provisions of this section to achieve early detection and a more proactive approach to MSD management (see, *e.g.*, Exs. 30-626, 30-2387, 30-4583, 32-182-1, 32-339-1, L-30-4860, 500-71-86, 500-218). Many suggested that MSD management should be triggered when an employee reports the signs and/or symptoms of MSDs (see, *e.g.*, Exs. 30-3686, 30-4538, 32-111-4, 32-182-1, 32-339-1, 32-210-2, 32-461-1, 32-85-3, L-30-4860). For example, the American Public Health Association stated that MSD management should be required for *all* MSDs reported to the employer including symptoms of MSDs (Ex. 30-626). The AFL-CIO (Ex. 32-339-1) argued that, as proposed, the MSD management provided by the proposed standard would not achieve the goal of early detection and urged OSHA to rely on employee reports of persistent signs and symptoms to trigger MSD

management for all jobs, rather than relying on covered MSDs to trigger action in some jobs, as the proposal did. Others recommended using an even more proactive, risk-based approach to trigger MSD management, instead of waiting for an employee report of an MSD (see, *e.g.*, Exs. 30-626, 30-2387, 30-3686).

Several commenters supported the proposed MSD management provisions with reservations/concerns (Ex. 30-3185, 30-3188, 30-4777). For example, the American Occupational Therapy Association urged OSHA to "[p]rovide guidance about the difference between treatment of a disorder and the management of early symptoms" (Ex. 30-4777).

Other commenters opposed the approach to MSD management taken in the proposal (see, *e.g.*, Exs. 30-276, 30-400, 30-1090, 30-1294, 30-1350, 30-1357, 30-1370, 30-1722, 30-1727, 30-1989, 30-2037, 30-2208, 30-2216, 30-2435, 30-3032, 30-3167, 30-3200, 30-3284, 30-3344, 30-3368, 30-3392, 30-3677, 30-3765, 30-3845, 30-3853, 30-3867, 30-3956, 30-4040, 30-4046, 30-4185, 30-4470, 30-4499, 30-4564, 30-4567, 30-4837, 30-4839, 30-4843, 31-27, 31-77, 31-78, 31-79, 31-125, 31-135, 31-172, 31-180, 31-202, 31-220, 31-225, 31-227, 31-245, 31-246, 31-247, 31-248, 31-252, 31-253, 31-265, 31-280, 31-283, 31-286, 31-307, 31-319, 31-321, 31-337, 32-120-1, 32-300-1, 500-1-127, 500-177-2, 500-208). In a representative comment, PPG industries recommended that OSHA

Remove these sections completely. These are very onerous requirements and the cost estimates of OSHA for these issues do not begin to approximate the real costs to industry to comply with these provisions. Further, they do nothing to achieve improved ergonomics in the workplace (Ex. 500-177-2).

Some of these commenters objected to the proposed MSD management section because it included provisions protecting the wages and benefits of injured workers (see, *e.g.*, Exs. 30-240, 30-3813, 30-3765, 30-3845, 601-x-1). These comments are discussed in detail below in conjunction with the comments received on the proposed rule's provisions on work restriction protection. Other commenters objected for the following reasons:

- The proposed provisions exceed OSHA's legal authority (see, *e.g.*, Exs. 30-710, 30-1350, 30-3956, 30-1722, 30-2208, 30-3765, 30-3845, 30-3956, 30-4499, 31-319, 32-241-4);
- The proposed provisions are unnecessary (Exs. 30-3677, 30-3765, 30-4185, 500-177-2); employers already have systems in place for

medical management of all injuries (Exs. 30-3677, 30-3765, 30-4185, 31-79, 31-321, 500-177-2);

- Medical management is addressed in other OSHA standards (1910.151 Medical services and first aid.) (Exs. 30-3765);

- The proposed provisions add burden on employers (see, *e.g.*, Exs. 30-1294, 30-3765, 30-4040, 30-4499, 30-4564, 500-177-2), the cost for medical assessment of illnesses is too high (see, *e.g.*, 30-1026, 30-1302, 30-0295, 30-1362, 30-0070, 30-0262, 30-0586, 30-0280, 30-3760), and the proposed requirements are too prescriptive (Ex. 30-400, 30-1294, 500-177-2);

- The proposed provisions are unclear about what the employer is supposed to do (Ex. 30-3344), fails to tell an employer when to provide access to an HCP (Ex. 32-120-1), or uses vague terms (see, *e.g.*, Exs. 30-2987, 30-3364, 30-3677);

- The proposed provisions conflict with workers' compensation laws (see, *e.g.*, Exs. 30-300-1, 30-710, 30-1350, 30-1722, 30-2435, 30-2987, 30-3284, 30-3745, 30-3765, 30-3845, 30-4026, 30-4564, 30-3677, 30-4499, 31-172, 31-180, 31-220, 31-252, 32-206-1);

- The proposed provisions create a preferential system for MSDs and enforces the notion that ergonomics injuries are more important than other injuries (see, *e.g.*, Exs. 30-1294, 30-3765, 30-4470, 30-4843, 31-280, 500-177);

- The proposed provisions would interfere with existing collective bargaining agreements (see, *e.g.*, Exs. 30-3284, 30-3765, 32-266-1);

- The proposed provisions would address a problem that was, in the opinion of these commenters, largely or exclusively non-occupational in origin (see, *e.g.*, Exs. 30-240, 32-241-4, 30-3167, 30-3956, 30-3956, 30-4046, 30-4713, 32-241-4); and

- The proposed provisions change the traditional relationship between doctors, patients and employers (Exs. 30-4470) or inappropriately inject the employer into the employee-patient relationship (Ex. 30-4567).

In a representative comment, the Dow Chemical Company (Ex. 30-3765) stated that (1) a management system for work-related injuries already exists through workers' compensation laws, (2) the proposal may conflict with some collective bargaining agreements, and (3) a special work restriction protection is not warranted for MSDs because of their multifactorial nature. The Anheuser-Busch Companies, Inc. and United Parcel Service, Inc. added "[t]he proposed rule is doomed to fail as a result of its exclusive focus on

workplace activity" *i.e.*, on the work-related rather than non-occupational causes of MSDs (Ex. 32-241-4, p. 182).

The proposed rule would have required employers to provide injured employees with prompt access to an HCP, *when necessary*, for evaluation, management and follow-up. OSHA has reconsidered the issue, and now believe that any MSD incident is serious enough to warrant MSD management.

Several commenters recommended that OSHA require an employer to refer an employee with complaints or signs or symptoms of an MSD to a HCP for evaluation, management, and follow-up immediately, rather than "when necessary," as proposed (Exs. 30-651, 30-3826, 30-3686, 30-2387, 30-4468, 32-339-1, 32-111-4, 32-182-1, 30-4538, 32-210-2, 32-461-1, 32-85-3, 32-210-2, 32-450-1). For example, the United Food and Commercial Workers (UFCW) argued that having every worker assessed initially by an HCP would resolve many issues raised by the proposal, such as "when to refer the employee to the HCP," "follow-up," and "deciding appropriate work restrictions" (Ex. 32-210-2). The American Association of Occupational Health Nurses (AAOHN) (Ex. 30-2387) commented that "[e]mployers should automatically be required to refer employees with MSD complaints to health care professionals for evaluation and determination about physical capabilities and work restrictions. Most employers are not qualified to make this determination." The AAOHN also stated that "[d]ecisions related to signs and symptoms of MSD[s] and placement of temporary work restrictions should be made by a health care professional" (Ex. 30-2387). Some commenters stated that the phrase "when necessary" was unclear, confusing, and vague (Exs. 30-2987, 30-3782, 30-3826, 30-3845). Other commenters, however, agreed with the "when necessary" language, on the grounds that it gave the employer the flexibility to decide when an employee needs to be referred to an HCP (see, *e.g.*, Exs. 30-3813, 30-4467, 32-300-1).

OSHA has deleted the "when necessary" language from the final rule. The final rule only applies to specific injuries (those with restrictions, medical treatment, or persistent signs and symptoms) and OSHA finds that these injuries should always be followed by medical management, including access to an HCP. This change clarifies the final rule and assures prompt medical management for employees who need it.

Several commenters recommended alternative approaches to MSD management. The Pinnacle West Capital

Group suggested OSHA simply leave MSD management to the employers discretion (Ex. 30-3032). PPG Industries suggested that OSHA only require an employer to have in place a system that focuses on early intervention (Ex. 30-1294). Ashland Distribution Co recommended OSHA:

[d]elete [the] last sentence of 1910.919 and [the] remainder of MSD management, and add "You must make MSD management available promptly whenever a covered MSD occurs. You must provide MSD management at no cost to employees. A health care professional should be involved in MSD management when necessary" (Ex. 30-4628) (see also Ex. 31-337).

In the final rule, OSHA has decided to carry forward the MSD management provisions of the proposed rule with only minor modifications. The MSD management provisions of the final rule emphasize the prevention of impairment and disability through prompt evaluation and management of MSD incidents, evaluation by a health care provider, provision of needed work restrictions, and appropriate follow-up. The provisions are included because successful ergonomics programs include MSD management, OSHA has had successful experience with including MSD management as part of an ergonomics program agreement with employers, and OSHA therefore believes that MSD management is essential to the proper functioning of an ergonomics program.

The MSD management provisions of the final rule are based on the many successful ergonomics programs that include policies for the medical management of MSDs, and the final rule contains provisions similar to those in such programs (see, *e.g.*, Exs. 26-2, 32-450-1). The MSD management provisions of the final standard are thus built on the processes that employers with effective ergonomics programs are using to help employees who have work-related MSDs.

MSD management is recognized by employers, HCPs, and occupational safety and health professionals as an essential element of an effective ergonomics program (see, *e.g.*, Exs. 26-1, 26-5, 26-1264, 32-450-1, 30-4468, 37-12, 37-28). Among employers who have told OSHA that they have an ergonomics program, most reported that their programs include MSD management as a key element (see, *e.g.*, Exs. 3-56; 3-59; 3-73; 3-95; 3-113; 3-118; 3-147; 3-175; 3-217; and Exs. 26-23 through 26-26, 500-71-84). This approach is also supported by the scientific literature concerning ergonomics as evidenced by the

comments of Robin Herbert, MD (Ex. 37-28):

The MSD [proposed] management provisions are consistent with approaches enumerated in a number of medical textbooks and peer-reviewed papers * * *. The MSD management section recommendations would be likely to diminish the severity of, and, consequently, the disability and suffering associated with, MSDs.

The final rule's MSD management provisions are also based on OSHA's experience with ergonomics over the last 15 years. For example, MSD management provisions were included in OSHA's 1990 Ergonomics Program Management Guidelines for Meatpacking Plants (Ex. 26-3). In addition, MSD management provisions have been included in all of OSHA's corporate settlement agreements addressing MSD hazards. In a 1999 workshop to discuss the experience of companies with corporate wide settlement agreements, the companies who were involved stated that "[q]uality healthcare is a must" for an ergonomics program, and "[g]ood medical management allows early reports and reduces surgeries" (Ex. 26-1420). Further, to become a member of OSHA's Voluntary Protection Program, employers are required to include "Occupational Health Care Program" provisions in their safety and health programs that address MSDs and their management, along with other health hazards.

There are many reasons why MSD management is essential to the success of an ergonomics program. As mentioned above, MSD management emphasizes the prompt and effective evaluation and management of MSD incidents, with appropriate follow-up for the injured employee. When MSD incidents are managed effectively, they are more likely to be reversible, to resolve quickly, and not to result in disability or permanent damage. MSD management also helps to reduce the overall number of MSDs in a given establishment because it alerts employers to MSD hazards in their jobs so that they can take action before additional problems occur. An MSD management process that encourages early reporting and evaluation of that first MSD helps to ensure that the analysis and control of the job is accomplished before a second employee on that job develops an MSD. MSD management thus reduces MSDs through prevention. In addition, MSD management helps to prevent future problems through the development and communication of information about the occurrence of MSDs to employees.

Finally, where engineering, design and procurement personnel are alerted to the occurrence of MSDs, they can help to implement the best kinds of ergonomic controls: those that engineer out MSD hazards in the design and purchase phases and thus prevent MSD incidents from occurring.

The final rule does not require the employer to provide MSD management for all MSDs, but only requires MSD management for MSD incidents that occur to a worker in a job that exceeds the action trigger. This helps to assure that MSD management is only required for work-related MSDs, and that non-occupational MSD cases are excluded. The final rule does not require the employer to take any action for non-work-related MSD cases. The only obligation may be to determine the work-relatedness of an MSD report from an employee to make sure that the MSD is non-occupational, but no other action is required.

Requiring MSD management only for MSD incidents, as defined by the final rule, also makes sure that the MSD is a more serious case, and that MSD management, as well as the other elements of an ergonomics program, are not being required for cases that involve only minor pain or soreness but are being provided for disorders that need treatment and cases with persistent signs or symptoms. Requiring MSD management under these circumstances also makes sense because all of the program elements are initiated with the same implementing mechanism; requiring MSD management without the other elements of an ergonomics program would be inconsistent and ineffective.

The final rule requires MSD management for all MSD incidents when the worker's job exceeds the action trigger. OSHA has eliminated the phrase "when necessary" so the MSD management provisions apply to all MSD incidents. If an MSD has resulted in days away from work, restricted work, or medical treatment, and the employee's job exceed the action trigger, there is no further reason for delay. MSD management is clearly needed for these MSDs, and the final rule requires it. The final rule does not mandate MSD management for MSDs that do not rise to that level. For other incidents, the employer will have to make a decision about what MSD management actions are appropriate, but the final rule does not require them.

OSHA also believes that the final rule strikes the necessary balance between being too prescriptive and too vague. The provisions of OSHA's standard 29 CFR 1910.151 Medical services and first

aid merely require the employer to "ensure the ready availability of medical personnel for advice and consultation on matters of plant health" and do not provide sufficient guidance for the effective management of MSD incidents. Likewise, simply leaving MSD management to the discretion of the employer, or including a simple reference to provide MSD management "when necessary" would not provide enough guidance for employers, health care professionals, or workers. At the same time, the final rule's provisions requiring employers to provide access to a health care professional, provide work restrictions, and generally evaluate, manage and follow-up on an MSD incident provide the flexibility needed for the variety of MSD cases that employers will encounter. An employee who has suffered a severe back injury from lifting a heavy object and is experiencing agonizing pain and an inability to function may need immediate treatment in an emergency room, while a worker who is experiencing a gradual worsening of pain in the wrists may require prompt (but not immediate) treatment by a specialist.

OSHA finds that the arguments that the rule changes the traditional relationship between doctors, patients and employers (Exs. 30-4470) or inappropriately injects the employer into the employee-doctor relationship (Ex. 30-4567) are without merit. Employers have, for many years, experienced a relationship with the medical community in regards to employees work and non-work related injuries and illnesses. Employees commonly obtain written notification from a physician to explain time off of work for personal illness. Employers frequently consult with a health care provider when an employee is injured or becomes ill at work, to determine appropriate time off, restrictions or medical treatment, and the requirements of the final rule are not much different. Employers also consult with health care professionals when they contest workers' compensation claims, during tort litigation, or when implementing reasonable accommodations for disabled persons as required by the Americans with Disabilities Act (ADA).

Finally, OSHA believes these requirements are needed to make sure that employees get the medical attention they need. As the Thermoquest Corporation stated:

[i]f there are no clear guidelines, many employers may not allow an employee to seek medical help for various reasons. Also to leave it up to the employee when to see a physician allow for employee abuses. The

difficulty lies in getting the injured employee the treatment they need in a timely manner (Ex. 31-301).

OSHA's responses to the comments that the MSD management provisions exceed OSHA's legal authority, affect workers' compensation, or impact collective bargaining agreements are addressed in the section of this preamble dealing with worker removal protection.

Who Provides MSD Management Services?

The preamble to the proposed rule explained that the proposed ergonomics rule would have permitted "persons in the workplace and/or HCPs" to provide injured employees with evaluation, management, and follow-up in connection with the MSD management process (64 FR 65838). The regulatory text required that an employer provide access to a health care professional for evaluation, management and follow-up "when necessary" (64 FR 66073).

Many commenters (see, e.g., Exs. 30-3826, 30-2387, 32-450-1, 32-210-2, 30-2806, 30-4468) argued that the inclusion of individuals without medical training and experience in the MSD management process was inappropriate. For example, the American Association of Occupational Health Nurses (AAOHN) strongly disagreed with the proposal's use of the phrase "or other safety and health professionals as appropriate" in the MSD management process on the grounds that assessing, providing prompt management/treatment to, and following-up individuals with medical problems are clearly activities within the scope of health care professionals' professional licenses but are not included in the scope of practice of other safety and health professionals. The AAOHN stated that "[i]t is imperative that the standard not enable non-licensed individuals to make health assessments and provide health care services without a professional license" (Ex. 30-2387).

The National Institute for Occupational Safety and Health (NIOSH) noted that, although the institute supports "[e]mployers' efforts to train employees in the early signs and symptoms of MSDs and to seek HCP evaluation when appropriate," it "recommend[s] that the standard preclude non-HCPs and non-licensed HCPs from conducting medical evaluations." In addition, NIOSH noted that, the institute "[s]upports OSHA's proposal that permits the MSD management programs to be administered by a variety of licensed HCPs as defined (in the proposal's

definition section). However, [it] recommend[s] that the clinical aspects of the program (medical evaluations of symptomatic workers) be performed by licensed HCPs under the supervision of HCPs licensed for independent practice (including physicians, and nurse practitioners and physicians' assistants in those states where they are so licensed)" (Ex. 32-450-1). Other commenters (see, e.g., Exs. 30-3826, 32-210-2, 30-4468, 30-2806) agreed that evaluating an employee's complaint of an MSD or assessing the physical capabilities of the employee to return to work or his or her need to rest the injured part may require expertise that an employer or other safety and health professional does not have.

The American College of Occupational and Environmental Medicine (ACOEM) noted that "[i]f MSD signs are to be included as part of the triggering event, the employee must be examined by a physician with training in medical diagnosis" (Ex. 30-4468). The ACOEM expressed concern that "flexibility" in allowing non-HCPs to evaluate employee reports of signs and symptoms "[w]ould result in employers—who are not likely qualified—making assessments or diagnoses. * * * Therefore, ACOEM recommends that the determination of a recordable MSD be made by a qualified occupational healthcare professional" (Ex. 30-4468).

The United Food and Commercial Workers (UFCW) agreed that HCPs, rather than others, should conduct MSD management, arguing that the OSHA proposal failed to require that an HCP make the initial assessment of the worker's condition, a crucial element of MSD management in the union's view. UFCW stated that "[a]ll successful programs that we have experience with have this core element" (Ex. 32-210-2). The UFCW emphasized this point by stating that, in corporate wide settlement agreements (CWSAs) between companies and OSHA, "OSHA and the industry recognized that lay persons were not capable of assessing symptomatic employees" (Ex. 32-210-2). Arguing along similar lines, the American Association of Orthopaedic Surgeons (AAOS) commented that "[i]t is inappropriate to ask the employee and employer to diagnose the employee's problem and determine if it is or is not related to work and deserving of further attention from the employer" (Ex. 30-2806). In her testimony, Mary Foley, President of the American Nurses Association (ANA), strongly encouraged:

OSHA to require that employers place the responsibility for evaluating MSDs with the licensed healthcare providers. Evaluating signs and symptoms and determining whether an injury has occurred is the responsibility and within the scope of practice of licensed health care providers. The supervisor and worker relationship is not a relationship that should involve or appropriately involves diagnosing physical injuries. If the employer erroneously decides that a covered MSD has not occurred, continuing to perform the hazardous job would result in a delay in evaluation and treatment, and could intensify the injury or seriously compromise the recovery, permitting managers and supervisors to assume these activities, place the employer and/or manager at risk of litigation for practicing medicine without a license or for denying medical attention to an injured person (DC 5/8/2000, Tr. 15884).

The final rule requires the employer to provide MSD management to employees who have suffered an MSD incident, if they are employed in a job that rises to the level of the action trigger, including prompt access to an HCP. OSHA agrees with these commenters that non HCPs should not provide medical services appropriately reserved to a health care professional. The final rule does not allow a non-HCP to provide medical services, and it was never OSHA's intent in the proposal to allow a non-HCP to provide medical services that are only appropriate to an HCP. Oftentimes, an HCP will have been involved in the MSD case well before the final rule requires MSD management, while the employer is determining the work-relatedness of the MSD case, and because the MSD incident, by definition, must involve days away from work, restricted work, medical treatment, or persistent signs/symptoms before it is covered by the MSD management provisions.

However, there are circumstances where an employer may provide a worker with work restrictions before consultation with an HCP. In some cases, the restrictions may be obvious. For example, if an employee injures his or her back, limiting the lifting the employee is required to perform is a logical action to take. In other instances, the employer may have had experience with similar MSD cases in the past, and the types of restrictions that are needed are familiar to the employer. In the situation where the employer knows what restrictions may be necessary, the final rule requires the employer to provide such restrictions. Providing restrictions even before consultation with an HCP can provide relief to the employee, reduce the severity of the case, and begin the healing processes at an earlier stage.

The Definition of Health Care Professional

The final rule and the proposal define health care professionals as "physicians or other licensed health care professionals whose legally permitted scope of practice (e.g. license, registration, or certification) allows them to independently provide or be delegated the responsibility to provide some or all of the MSD management requirements of this standard."

Several commenters supported the proposed definition of "HCP" (see, e.g., Exs. 3-73, 30-519, 30-2387, 30-2807, 30-3745, 30-3748, 30-3813, 30-4567, 30-4844, 32-85-3, IL-182). For example, the Rural/Metro Corporation (Ex. 30-519) stated that the definition of HCP in the proposal was appropriate because OSHA should not attempt to decide scopes of practice for HCPs. The AAOHN (Ex. 30-2387) stressed that a "[k]nowledgeable health care professional, practicing within their legal scope of practice, establishes procedures, or consults with the employer in the establishment of procedures, to determine what is to be done when an employee reports a MSD or persistent MSD symptoms." In her testimony for the AAOHN, Sandy Winzeler stated:

It is appropriate for OSHA to recognize the roles that different health and safety disciplines play in health and safety programs. * * * Each discipline has a unique contribution to make to the program; in this case, the prevention and management of MSDs. It is only through such collaboration that we are successful. However, it is inappropriate for OSHA to include language in a standard that would restrict the practice of any health care professional. As you are aware, health care professionals are regulated by the States. The current language used in the proposal defers to State law in determining whether the individual can fulfill the requirements under their licensed scope of practice, and AAOHN supports this. Over half of the States permit nurse practitioners to practice independently without any requirement for physician supervision or collaboration. This includes the ability to make independent medical diagnosis. Registered nurses often work in collaborative arrangements with physicians especially in the occupational health setting. It is impractical to expect that a physician will be on site and available to evaluate every employee, and in fact, it is usually the occupational health nurse that is on the front line, at the work site, working with employees every day. OSHA should recognize the important role that nurses play and by no means should limit our ability to fully practice within our legally defined scope [DC 3/29/2000, Tr. 5588-5590].

The American Physical Therapy Association (APTA) also expressed support for "OSHA's recognition of

licensed nonphysician providers” and noted that “[o]ther Federal programs, such as Medicare, defer to the states to determine licensure and scope of practice of the providers that participate in the program” [30–3748].

Other commenters urged OSHA not to limit employers’ choice of HCPs to specialists, who are often not available in reasonable proximity, which would delay prompt evaluation, management, and follow-up and make it much more costly (Ex. 3–73, 36–1370, 30–3745, IL–182). For example, the American Feed Industry Association, whose members have facilities in rural areas, expressed concern that the medical profession in a rural area may not have the expertise to deal with work-related MSDs, and pointed out that compliance could be a problem if the standard stipulated that the HCP have a specific background (Ex. 3–73, 30–3745, IL–182).

Other commenters opposed the proposed definition (see, e.g., Exs. 30–494, 30–991, 30–2208, 30–3004, 30–2208, 30–2676, 30–4468, 30–4699, 30–3749, 30–3783, 30–3781, 30–3937, 30–4025, 30–4467, 30–4538, 30–4843, 32–22–1, 32–339–1, 32–111–4, 32–182–1, 32–210–2, 32–300–1, 32–461–1). Many of these commenters held the opinion that the definition was too broad (see, e.g., Exs. 30–991, 30–2208, 30–3004, 30–2208, 30–4468, 30–4699, 30–3749, 30–3783, 30–3781, 30–3937, 30–4025, 30–4467, 30–4538, 30–4843, 32–22, 32–339–1, 32–111–4, 32–182–1, 32–210–2, 32–300–1, 32–461–1). The comments of the Combe Inc. company are representative: “[b]y allowing persons who do not even have a medical degree to diagnose and treat these disorders, the proposed standard creates an environment where the potential for misdiagnosis and improper treatment efforts is dramatically increased” [Exhibit 30–3004]. The Center for Office Technology pointed out that because the definition is so broad, it could include occupations such as emergency medical technicians or licensed vocational nurses who would not be the appropriate professionals to make decisions with respect to MSDs [Ex. 30–2208]. The New Mexico Workers’ Compensation Administration argued that a massage therapist could render an opinion on MSDs (Ex. 32–22).

A number of commenters recommended OSHA limit HCPs to physicians, nurse practitioners, or physician’s assistants (see, e.g., Exs. 32–339–1, 32–111–4, 32–182–1, 30–4538, 32–210–2, 30–4468, 30–4699, 32–450–1, 30–2806, 32–300–1). Others advised that HCPs be limited only to physicians [Exhibit 30–351, 30–3749, 30–3344]. Several commenters acknowledged

OSHA’s attempt to reduce the cost of the standard, but noted that fact finders rely heavily upon treating physician’s opinions when litigating causation issues under the various worker’s compensation laws (Exs. 30–3749, 30–3344, 30–4674).

Other commenters argued that the ergonomics rule should require HCPs to have specific training (see, e.g., Exs. 30–626, 30–3032, 30–4467, 30–4538, 32–339–1, 30–4468, 30–2806, 30–3934, 30–3745, 30–3937, 32–300–1). For example, the law firm of Morgan, Lewis and Bockius argued that HCP’s not specifically trained in musculoskeletal disorders would not be able to make accurate diagnoses and that HCPs without MSD specific training “[m]ight actually irritate conditions or prescribe incorrect treatments, or impose unwarranted obligations on employers’ (Ex. 30–4467). The International Association of Drilling Contractors (Ex. 30–2676) commented that “According to a recent medical publication, 82% of medical school graduates failed a valid musculoskeletal competency examination. (The Journal of Bone and Joint Surgery, Vol. 80–1, No. 10, October 1998, pp. 1421–1427)” to argue that “This startling statistic makes one question how a general physician may properly diagnose a MSD” and the “[i]nclusion of other fields under its [OSHA’s] definition of HCP is all the more unacceptable”. However, the International Association of Drilling Contractors did not submit a copy of the article into the rulemaking docket, so OSHA is not able to fully evaluate the journal article. It appears to be a competency examination for a specialized medical field, and it is unclear that the examination uses the same definition of musculoskeletal disorder as OSHA’s rule, so OSHA does not believe that the article provides evidence contrary to the final rule’s definition of HCP.

Several commenters encouraged OSHA to define the specific competencies an HCP should acquire to be qualified to screen, diagnose and manage MSD cases (see, e.g., Exs. 30–2806, 32–182–1, 32–300–1). For example, the American Association of Orthopaedic Surgeons (Ex. 30–2806) found OSHA’s proposed definition to be incomplete, and suggested the ergonomics rule include a requirement to use HCPs who are “[h]ighly trained and qualified” and who are “[k]nowledgeable in the assessment and treatment of MSDs” to ensure appropriate evaluation, management and follow-up of workers’ MSDs.

The American College of Occupational and Environmental

Medicine (ACOEM) recommended the definition of health care professional be changed to “*occupational* physicians or other licensed *occupational* health care professionals”, focusing on the HCP’s training and competencies in occupational medicine. ACOEM recognized the important role of non-physicians such as nurses, physician’s assistants, and other health care providers, but argued that the healthcare provider must be able to perform four basic functions to perform the duties of an HCP required by the proposed ergonomics standard:

- (1) Make independent diagnoses (which is usually limited to physicians, except in those states where nurse practitioners and physician assistants are licensed for independent practice);
- (2) Conduct an appropriate physical exam,
- (3) Order appropriate treatment, and
- (4) Be able to relate musculoskeletal findings to work activities (which requires an understanding of basic epidemiology).

ACOEM further argued that OSHA’s definition was questionable because other federal agencies have refused to adopt OSHA’s definition of a “licensed health care professional” used in other standards. AECOM cites as examples, a NIOSH policy statement on respirator use, as well as the Department of Energy (DOE) rule on Beryllium. AECOM also cited the variability of state health care licensing laws as a reason for restricting the definition, and that state scope of practice laws were “never intended to be the mechanism to protect a worker from a toxic, carcinogenic, or biological exposure in the workplace” [Exhibit 30: 4699].

The National Institute for Occupational Safety and Health (NIOSH)

[s]upports OSHA’s proposal that permits MSD management programs to be administered by a variety of licensed HCPs * * * However, we recommend that the clinical aspects of the program (medical evaluations of symptomatic workers) be performed by licensed HCPs under the supervision of HCPs licensed for independent practice (including physicians, and nurse practitioners and physician’s assistants in those states where they are so licensed) (Exhibit 32–450–1).

In the final rule, OSHA has carried forward the definition from the proposed rule:

Physicians or other licensed health care professionals whose legally permitted scope of practice (e.g. license, registration or certification) allows them to independently provide or be delegated the responsibility to provide some or all of the MSD management requirements of this standard.

The final rule's definition of HCP is desirable for several reasons. Perhaps most important is that the HCP definition provides employers with the flexibility needed to assure that injured employees receive "prompt and effective" MSD management. Specialists and occupational physicians are not always readily available, and the rule allows the employer to consult health care professionals with these qualifications when needed, but does not require the employer to seek them out for each and every case. In some rural locations, access to specialized HCP's may be limited, and even in more urban settings, it may take significant time to get an appointment for an employee to see a specialist. If the employee can see a physician in general practice promptly, this may be the better option. Likewise, if an employer has an occupational health nurse, the nurse can provide services immediately and avoid delay.

Each MSD case also requires its own level of occupational health services. In some cases, a registered nurse or physician's assistant may be able to recommend restrictions and conservative treatment and resolve the problem. In other cases, the services of a physician or a medical specialist may be needed to treat the employee. The final rule does not restrict the employer's option to obtain more specialized services, and it is a common practice for HCPs to refer cases needing more specialized care to more qualified HCPs. OSHA sees no reason why this system will not continue to function as well as it has in the past.

The HCP definition is consistent with many of OSHA's health standards. In its most recent health standards (e.g., respiratory protection, methylene chloride, proposed tuberculosis rule) the Agency has relied on a broad definition of HCP, to allow HCPs to carry out any of the regulatory requirements specified in a given standard, provided that the medical function performed is within their scope of practice, licensure, or certification. OSHA has not noted any significant problems with the definition in employers implementation of these standards, the definition appears to be working as intended, and OSHA's broad definition of HCP published in the respiratory protection standard has been upheld in the courts (*American Iron and Steel Institute v. OSHA*, 182 F.3d 1261 (11th Cir. 1999)). In addition, consistency from standard to standard is a desirable feature that makes it easier for employers and workers to understand and follow the standards.

The definition also relies on the licensing requirements imposed by the states. As stated in the proposal (FR 65842), OSHA believes that issues of HCP qualifications and scope of practice are properly addressed by State law and professional organizations. The states have been regulating medical practice for quite some time, and appear to be doing so effectively, so there is no reason to interfere with the licensing procedures the states have implemented. Relying on the state requirements will assure that unqualified or inappropriate individuals do not provide medical services beyond their training and qualifications, and the state licensing boards can continue to handle cases where improper treatment is provided or improper actions are taken.

The final standard does not contain diagnostic or treatment protocols. OSHA believes this is an area for the health care professions to recommend. Also, because standards of care change over time, it is the responsibility of the treating health care professional to select treatments in accordance with current acceptable standards of practice. NIOSH supports OSHA's "[d]ecision not to include particular diagnostic tests, treatment protocols, and clinical case definitions in the MSD management section, or anywhere else in the ergonomic standard. Standards of care change over time, evolving with new research, technological innovations, and new therapies. To allow workers to be provided with current, state-of-the-art clinical care, OSHA is correct to leave diagnostic and therapeutic decisions to HCPs and their professional organizations" [Ex. 32-450-1].

Who Selects the Health Care Professional

Some commenters raised the question of whether the employer or the employee get to choose the health care professional providing services. The American Apparel Manufacturing Association remarked

OSHA has also failed to address the issue of choosing doctors. In some states, patients have the right to choose their own physicians. In other states, employers choose the doctors. Does the employer choose the HCP under the proposed federal rule, or could employees choose a doctor who will diagnose an MSD without real cause and expose companies to possible fraudulent actions? Does the proposed law supercede state laws in those states where the patient may choose? (Ex. 30-4470)

Several commenters recommended that OSHA specify in the standard that the employer has the right to choose the physician (see, e.g. Exs. 30-3188, 30-

3284, 30-4301, 30-4467, 30-4564, 30-4607, 32-300-1, 32-337-1) In a representative comment, Southern California Edison argued that:

Since the employer is required to follow the HCP's advice, the employer must be able to trust the diagnosis. However, not all healthcare providers are qualified by training or experience to evaluate, treat and provide restrictions for musculoskeletal disorders. If the employee is permitted to select the healthcare provider, as they are allowed by some states' workers' compensation laws, they may not select the provider that will have the time or experience to work with the company in determining appropriate restrictions (Ex. 30-3284).

Another group of commenters recommended the opposite, that the employee should be allowed to select the physician (see, e.g. Exs. 30-3033, 30-3034, 30-3035, 30-3258, 30-3259, 30-4159, 30-4536, 30-4547, 30-4549, 30-4562, 30-4627, 30-4776, 30-4800, 31-242). A form letter submitted by a number of individual employees made several arguments, including "[t]he HCP must be one of the employee's choosing, not the employer's (or insurance company's) choosing. Otherwise, a biased opinion may result, and the employee's condition can easily worsen"; that general practitioners "are often the HCPs that are chosen by the employer or insurance company to diagnose work-related injuries under the Workers' comp system. It is common to underestimate the seriousness and long term consequences of MSD injuries, and consequently, not enough temporary work restrictions are recommended"; and "HCPs chosen by someone other than the employee may be biased in favor of the employer or insurance company in order to obtain future referrals" (Ex. 30-3332).

The comments from both employers and employees show a large measure of distrust for health care professionals selected by either. It is for this reason that the final rule includes provisions for multiple HCP review. It is OSHA's view that, when the employer provides access to an HCP under the final rule, the employer has the right to select the HCP. However, the employee has a right to a second opinion if he or she disagrees with the employer selected HCP, under the provisions of paragraph (s). A more detailed discussion of HCP selection is contained in the discussion of multiple HCP review.

"Prompt" MSD Management

The proposal would have required employers to respond promptly to the reports of employees with MSDs, and the final rule includes similar language. Whenever an employee reports an MSD,

the key is to take action quickly to help ensure that the MSD does not worsen. Many commenters agreed that early reporting and prompt response were the key to resolving MSD problems quickly and without permanent damage or disability [Exs. 30-4468, 32-78-1, 32-85-3, Tr., p 10516]. For example, the American College of Occupational and Environmental Medicine (ACOEM) remarked that "[e]mployers should ensure that injured employees are provided with 'prompt access to health care professionals or other safety and health professionals as appropriate.' The early reporting and intervention process is important to the effectiveness of a medical management program" (Ex. 30-4468). Other commenters argued that the first response to any report of MSD should be evaluation by a health care professional (Exs. 30-651, 30-3826, 30-3686, 30-2387, 30-3748, 30-4468, 32-339-1, 32-111-4, 32-182-1, 30-4538, 32-210-2, 32-461-1, 32-85-3, 32-210-2, 32-450-1).

Some commenters stated that "promptly" was vague and ill defined, questioning what the term "promptly" meant in the provision directing employers to respond to employee reports (see, e.g. Exs. 30-115, 30-2208, 30-33336, 30-3354, 30-3845, 30-3848, 30-4540). Bruce Cunha RN MS COHN-S (Ex. 31-303) stated that "Five days should be adequate time to start the management process. If it is enough time to arrange a visit with a health care professional is questionable. Since OSHA allows the employer to choose the health care provider, it should be expected that it may take longer than 5 days to get an appointment."

The final rule requires the employer to provide "prompt" MSD management. The term "prompt," as used in this paragraph, means as soon as possible or within a reasonable period of time, consistent with the apparent severity of the MSD or with other conditions (e.g., accessibility of medical care). OSHA believes, as the proposal discussed, that employers will almost always be able to provide MSD management within a one to five day window (64 FR 65840). Action within this interval will generally prevent the employee's condition from becoming more severe.

In the final rule, OSHA has provided clear guidance that prompt is one week. Paragraph (x), Table 2. Compliance Time Frames states that MSD management must be initiated within 7 calendar days after the employer determines that a job where an employee experiences an MSD incident meets the action trigger. OSHA finds that one week is more than enough time to initiate MSD management, select an

HCP, and set an appointment for the employee to see an HCP.

In some workplaces, an occupational health nurse is available to take reports of MSDs, and in this case MSD management begins immediately, so promptness is not an issue. In most cases, however, employers will not have an on-site HCP, since smaller workplaces make up the overwhelming majority of all workplaces. In such cases, OSHA is aware that it may take a few days to arrange an appointment with an HCP. There are circumstances, however, where immediate evaluation by an HCP is warranted. For example, an employee experiencing severe shoulder pain with numbness down her arm, an inability to sleep due to pain, and decreased range of motion of the arm and shoulder should immediately be referred to an HCP.

Prompt MSD management helps limit further exposure to the MSD hazard or hazards associated with the employee's job helps to ensure that the employee's condition does not worsen while the employer analyzes the problem job and makes workplace changes to correct the hazard.

Providing MSD Management at no Cost to Employees

Both the proposed rule and the final rule require the employer to provide MSD management at "no cost to employees." The requirement to provide MSD management at no cost drew little comment. Some commenters supported the no cost clause (see, e.g., Exs 30-4536, 30-4547, 30-4549, 30-4562, 32-78-1). Vicorp Restaurants asked OSHA if the employer is required to pay even if the report is ultimately determined to be frivolous, exaggerated, or fraudulent (Ex. 30-3200). Other commenters argued that the cost for medical assessment of illnesses is too high (see, e.g., 30-1026, 30-1302, 30-0295, 30-1362, 30-0070, 30-0262, 30-0586, 30-0280, 30-3760). A few commenters suggested that OSHA clarify that "at no cost" doesn't include loss from production based pay and bonuses (Ex 30-3354, 30-3848, 30-4530, 30-4799).

As OSHA explained in the preamble (64 FR 65841) the term "at no cost to employees" includes making MSD management available at a reasonable time and place for employees (*i.e.* during working hours) and that the term no cost is interpreted in the same way as OSHA's other health standards. If an employee's MSD report is found to be fraudulent, then the employer is not required to pay for MSD management. A fraudulent claim would be one that is found to be non-work-related, and MSD management is only required for work-

related MSD incidents. These wages would not include production bonuses or other premium payments, but for workers who are paid on a piecemeal basis, the employer must assure that the employee would not lose pay by visiting an HCP. This can easily be accomplished by paying the worker the average piecemeal rate he or she had been earning.

OSHA recognizes that MSD management imposes costs on employers, and these costs are reflected in the economic analyses for the final rule. However, if employees were made to absorb the costs of MSD management, they would be less likely to report MSDs to their employer, which would have a detrimental effect on the overall functioning of the rule.

Follow-up

The final rule, as did the proposal, requires that the employee receive appropriate follow-up during the recovery period. Follow-up is defined as the process or protocol the employer, safety and health professional, or HCP uses to check up on the condition of employees with covered MSDs when they are given temporary work restrictions or removed from work to recover.

OSHA received very little comment specific to follow-up. The Southern California Edison company stated that the proposed rule:

[p]laces the responsibility on the employer to ensure that the employee goes to the HCP initially and as required thereafter. This assumes a cooperative employee. The final standard should make clear that an employer could not be cited because an employee refuses to see the HCP (Ex. 30-3284).

OSHA has included the requirement for follow-up in the final rule. Follow-up of injured employees is essential to ensure that MSDs are resolving. Follow-up generally means additional visits to the HCP to see if the employee is getting better or is getting worse. This process helps to ensure that injured employees do not "slip through the cracks," for example, by being left in alternative duty jobs long after they have recovered, or by being given work restrictions but failing to follow up to see whether the restrictions helped. If follow-up is not provided, neither the employer nor the HCP will know whether an employee's MSD symptoms are abating or becoming worse. Where follow-up is not provided or the healing process is not properly monitored, injured employees may never be able to return to their jobs.

The employer need not be fearful of citation if the only reason follow-up is not completed is because the employee refuses to see an HCP. The employer is

required to provide access to an HCP, but is not required to force an employee who does not wish to see the HCP to do so.

Medical Treatment

During the course of reviewing the comments to the proposed ergonomics standard, OSHA has noticed that some commenters believed that the proposed rule would require the employer to provide medical treatment as part of its MSD management provisions (see, e.g., Exs 30-564, 30-1251, 30-2425, 31-353). Roy Gibson (Ex. 30-2526) remarked that "Once employees are aware that medical treatment is an option open to them, they will request treatment." Allfirst Bank (Ex. 30-1251) asked "How can we assure 'effective' treatment?"

OSHA wants to make it clear that the final rule does not require the employer to provide medical treatment to injured employees. While specific medical treatment may be appropriate, such as medicines, physical therapy, chiropractic care, or even surgery, the final rule does not require the employer to provide such services. The rule requires the employer to provide access to an HCP, provide needed restrictions, provide information to HCP's and employees, and provide WRP, but the standard does not address the medical treatment afforded employees. Therefore, if an injured employee needs medical treatment, the employer is not required to pay for them.

Temporary Work Restrictions

The final rule, like the proposal, requires the employer to provide temporary work restrictions, where necessary, to employees with MSDs. Work restrictions include any limitation placed on the manner in which an injured employee performs a job during the recovery period, up to and including complete removal from work.

Many commenters supported the requirement of providing temporary work restrictions, when necessary (see, e.g., Exs. 30-3686, 30-3813, 32-339-1, 32-111-4, 32-185-3-1, 32-182-1, 30-4538, 31-353, 32-461-1, 32-198-4, 32-450-1, 37-12). NIOSH described the role of work restrictions as the first line of defense in addressing MSDs (Ex. 32-450-1) and that "[c]ompanies should be able to continue the practice of placing symptomatic workers in temporary positions until a prompt evaluation by an HCP can be performed * * *" (Ex. 32-450-1). Dr. Robert Harrison stated that:

Data from several studies suggest that job modification is significantly associated with improvement in clinical outcome. These studies have been summarized in a critical

appraisal of the effectiveness of modified work programs (Krause 1998). This comprehensive review found that modified work programs facilitate return to work for temporarily and permanently disable workers. Employees with access to modified work return to work after a disabling injury about twice as often as employees without access to any form of modified duty . . . The findings from these studies conclusively show that early intervention and case management, including modified/restricted duty, will help prevent prolonged disability (Ex. 37-12).

However, some commenters argued against restrictions and recommended deleting the work restriction and work restriction protection provisions from the final rule (see, e.g., Exs. 30-1294, 30-3765, 30-3813, 30-3956, 30-3845, 32-300-1). For example, the Edison Electric Institute argued that providing work restrictions

[m]ay conflict with existing collective bargaining agreements and current or future company philosophies on accommodating employees on restricted duty when there is no work available which they can perform under the indicated restrictions. This is especially true given the current climate of mergers, divestitures and competition in the electric utility industry (Ex. 32-300-1).

Other commenters asked what an employer is to do if there is no alternative work at the establishment (Exs. 30-2208, 30-3826) or no productive work (Ex. 30-240) available for the employee with the MSD. The Department of Defense stated that it may not be possible to provide work within an employee's work restrictions at some federal agencies (Ex. 30-3826).

A number of commenters stated that it was inappropriate for an employer to determine if an employee needs work restrictions before the employee is seen by a HCP (see, e.g., Exs. 30-3033, 30-3034, 30-3035, 30-3185, 30-3188, 30-3258, 30-3259, 30-3284, 30-3765, 30-4046, 30-4159, 30-4536, 30-4547, 30-4549, 30-4562, 30-4607, 30-4647, 30-4713, 30-4776, 30-4800, 32-300-1, 500-163). For example, IBP Inc. argued that "[a]s a rule, [they] are unable to determine an appropriate work restriction until the medical evaluation is completed. As a result, it is impossible to advise the HCP of available work restrictions" (Ex. 30-4046). The Edison Electric Institute (EEI) argued that:

An HCP is better qualified to make an initial determination of an employee's physical limitations (*i.e.*, lift no more than 10 pounds, do not stand for more than 4 hours, etc.). The employer then is best qualified to determine appropriate work restrictions taking into account the physical limitations described by the HCP. OSHA provides no valid reason to complicate the process by

having the HCP make the choice of work restrictions.

EEI recommends that § 1910.931(b) be deleted. Additionally, the phrase "temporary work restrictions" should be replaced with "physical limitations" in § 1910.932(b). This would then require only that the HCP provide a written recommendation of physical limitations. Additionally, the wording of § 1910.933(a) should be changed to reflect that the employer must take the HCP's physical limitations information and select the proper temporary work restriction that best addresses the limitations (Ex. 32-300-1).

The Organization Resource Counselors suggested that there may be circumstances where the HCP makes errors and recommends inappropriate restrictions, suggesting OSHA add the phrase "[e]xcept when you determine those recommendations to be clearly erroneous based on review of the written opinion by a physician or other HCP with specific training and experience in diagnosing and managing MSDs" (Ex. 30-3813).

The United Mine Workers of America (UMWA) commented that complete removal from the workplace "is an unacceptable response to the problem" and that by including this in the definition of work restriction OSHA "[h]as tacitly authorized the termination of employees who suffer from MSDs." The UMA goes on to recommend that all such language be deleted from the standard (Ex. 500-71-86).

However, under the final rule, the employer must provide restrictions deemed to be necessary by either the employer or the health care professional. Both the employer and the employee whose work has been restricted need to understand (1) what jobs or tasks the employee can perform during the recovery period, (2) whether the employee is permitted to perform these jobs or tasks for the entire workshift, and/or (3) whether the employee needs to be removed from work entirely in order to recuperate. Employees for whom restrictions have been assigned must be properly matched with those jobs that involve work activities that will accommodate the requirements of the restriction and thus facilitate healing of the injured tissue.

If an HCP recommends restricted work, employers must follow such restrictions. Thus, in those instances where the employer refers the employee to an HCP, the employer has to follow the temporary work restriction recommendations, if any, included in the HCP's opinion. If the employer receives a restricted work recommendation they believe to be inappropriate, the employer may refer

the employee to an HCP with specialized training for further evaluation, but until the employer receives a new recommendation for restrictions, the employer must follow the recommendation of the first HCP. The provision of work restrictions to injured employees is a vital component of MSD management. Work restrictions provide necessary time for the injured tissues to recover. They are often considered one of the most effective means of resolving MSDs, especially if restrictions are provided at the earliest possible stage. If work restrictions are not provided, it may not be possible for the employee to recover, and permanent damage or disability may result.

For work restrictions to be effective, employers must ensure that they fit the functional needs of the injured employee. For example, work restrictions are only effective if they reduce or eliminate the employee's exposure to the workplace risk factors that caused or contributed to the MSD, or significantly aggravated a pre-existing MSD. To find the right fit, employers may need to examine potential alternative duty jobs to ensure that the employee will still be able to rest the affected area while performing the temporary job. Identifying appropriate work restrictions may require the collaboration of different persons such as HCPs, safety and health personnel, persons involved in managing the ergonomics program, and the injured employee.

The final rule's use of the term "work restrictions" includes both restrictions that keep the employee at work, such as half-days or job modifications, as well as full days away from work. This is in contrast to OSHA's recordkeeping rule, which defines restricted work separately from days away from work. Several of the commenters failed to recognize this important definitional aspect of the proposal. Because days away from work are included, the employer is not required to invent restricted duty assignments that keep the employee at work. If the employer does not have restricted work available, restricted work conflicts with collective bargaining agreements, or the employer simply wishes to do so, the employer may use days away from work to meet the requirement to provide restricted work. Of course, if the employee is sent home, he or she must provide WRP benefits as required by paragraph (r) of the final rule.

Although some covered MSDs could be at such an advanced stage that days away from work are the appropriate treatment, such removal is usually the recommendation of last resort. A recent

study (Ex. 600-) suggests that removal from the workplace is assigned by HCPs in only about three percent of all MSD cases. Where appropriate, work restrictions that allow the employee to continue working (e.g., in an alternative job, or by modifying certain tasks in the employee's job to enable the employee to remain in that job) are preferable during the recovery period. These types of restrictions allow employees to remain within the work environment. Studies indicate that the longer employees are off work, the less likely they are to return (Exs. 26-685, 26-919, 26-923, 26-924). A case study of a nursing home's early return to work program "saved approximately \$1 million in financial losses and improved injured workers' morale" (Ex. 502-486).

If employers provide the HCP with accurate and detailed information about the employee's job and, at a minimum, informs the HCP that the employer is willing to accept the employee back into the workplace with job restrictions, it is more likely that the HCP will recommend restricted activity at work rather than complete removal. Employers need to communicate with HCPs and supervisors to coordinate the provision of work restrictions.

Under this provision, employers are not required to provide the employee with the alternative job or work restrictions simply because the employee requests them. Therefore, if an HCP recommends that the employee not perform lifting tasks or not engage in repetitive motions during the recovery period, the employer is free to provide any form of work restriction that effectuates that work restriction recommendation. For example, if the recommended work restriction requires fewer repetitive motions, the employer can move the employee to an alternative duty job as a way of achieving this restriction. Or the employer might reduce the number of repetitions expected to be performed in the employee's current job in a number of ways: by reducing the amount of time the employee performs repetitive motions, by reducing the speed at which the employee performs the tasks, or by eliminating certain repetitive tasks during recovery. In the case of lifting jobs, the work restriction can be as simple as limiting the types or weights of objects the employee must move or lift.

The OSH Act prohibits employers from terminating an employee for reporting an MSD (or any injury or illness). OSHA does not condone the inappropriate termination of any employee for reporting an MSD (or any other injury or illness). "Complete

removal from the workplace" simply denotes the provision of time completely off of work (days away from work) to allow the employee to recuperate from the MSD. Of course, some employees may become completely disabled and have to terminate employment. OSHA believes that these cases are fairly infrequent, and the ergonomics programs required by final rule should make them even more so.

Written Opinion From the HCP

The final rule, as did the proposal, requires the employer to obtain a written opinion from the HCP and provide a copy to the employee. This paragraph also instructs the employer that he or she must inform the HCP that the written opinion is not to contain any medical information not related to workplace exposure to risk factors, and that the HCP may not communicate such information to the employer, except when authorized by state or federal law. Paragraph (q) discussed below, then instructs the employer as to the specific items the written opinion must contain.

This section of the proposal received very little comment. A few commenters supported the written opinion requirement (Ex. 30-3813, 30-3686). The American Nurses Association supported the proposed requirement for a written opinion, remarking that "The PLHCP should inform the employee and the employer, in writing, of the results of the evaluation, temporary work restrictions and medical conditions resulting from exposure to ergonomic hazards" (Ex. 30-3686).

Other commenters objected to the requirement for an employer to obtain a written opinion (see, e.g., Exs. 30-1070, 30-3231, 30-3336, 30-3347, 30-3392, 30-3765, 30-4185, 30-4470, 30-4496, 31-353). Several commenters objected to the burden of obtaining a written opinion from the HCP (see, e.g., Exs. 30-3336, 30-4185, 30-4470, 30-4496). Tyson's foods believed that the requirement would be particularly onerous because

[t]he proposed MSD management provisions also contemplate separate opinions for each MSD case. Under OSHA's injury and illness recordkeeping requirements, the identical condition may result in numerous OSHA recordable cases * * * requiring a separate written opinion for each case has the very real potential to create a mountain of paperwork for the same condition which may repeat itself throughout the year. (Ex. 30-4185).

Other commenters argued that the employer should not be required to tell the HCP what to provide (see, e.g., Exs

30-1070, 30-2350, 30-4470, 30-4674, 32-234-2) and believed that if the HCP's opinion is incomplete, the employer should not be cited or otherwise be held accountable (see, e.g., Exs 30-1070, 30-4470, 30-4674). The American Apparel Manufacturing Association asked "If the HCP's written opinion fails to include all elements stated in [proposed] § 1910.932, should the HCP or the employer choosing that HCP be held responsible?" (Ex. 30-4470). The Uniform and Textile Services Association added "[e]mployers retain the responsibility for the opinions content but not the control over it. Employers will have no choice but to pay whatever fees HCPs impose to prepare reports * * *" (Ex. 30-3336).

Other commenters stated that HCPs are reluctant to provide written opinions, and that HCPs are too busy to provide written documentation (see, e.g., Exs 30-2350, 30-3231, 32-234-2). On the other hand, Tyson's Food remarked that the written opinion is not necessary because HCP's already keep written medical records and provide employees with access under the OSHA Standard 1910.1020 Access to medical records (Ex. 30-4185). Tyson's Food (Ex. 30-4185) and Johnson & Johnson (Ex. 30-3347) provided identical comments expressing concern about which HCP needs to provide an opinion, remarking that:

[f]or any given MSD complaint, there may be a nurse, in-plant physician, physical therapist, chiropractor, outside specialist physician, and outside physician selected by the employee, who are all involved in the treatment of a case * * * It is not clear who "the" [emphasis in original] HCP is when there are multiple HCPs involved in a case.

OSHA has carried forward the provisions that require the employer to obtain a written report from the HCP and provide a copy to the employee. A written report is needed so it is clear to all parties what needs to be done to resolve the employee's MSD. This opinion must be written because oral communication is more susceptible of misinterpretation. Employers must keep a record, and the easiest way to do this is if the opinion is in writing. OSHA recognizes that the requirement adds burden to the final rule, but believes that the need for the requirement outweighs the minimal burden imposed. OSHA does not find the argument that HCP's will be uncooperative or charge excessive fees to be persuasive. The employer has the right to select the HCP, and if the HCP is uncooperative or charges excessive fees, the employer is free to choose another HCP.

The written opinion must explain what actions the HCP recommends to

resolve an MSD. These recommendations may include temporary work restrictions or the work the employee may do during the recovery period as well as the follow-up necessary to ensure that the MSD resolves. It is important that the HCP's opinion be provided in writing to the employer or the person(s) at the workplace who are responsible for carrying out the MSD management requirements of the standard. Employers need to know about the employee's medical condition to ensure that the restricted work activity they provide satisfies the HCP's recommendations, and whether the employee requires time away from work. The HCP's written opinion is especially important for the on-site person who is responsible for follow-up. That person needs to understand the HCP's plan for follow-up to make sure that the plan is implemented effectively. The information is also needed by the safety and health personnel who will be making workplace corrections. As the Organization Resource Counselors stated:

OSHA seems to assume that an HCP will always be designated by the employer to take a key role in finding and fixing MSD hazards. In fact, in most cases, other professionals will be designated by the employer to assume this role. Therefore, they must be provided with meaningful information regarding the employee's capacity to perform various tasks (Ex. 30-3813).

As to the need to obtain a separate HCP opinion for each recordable MSD, the final rule does not use a recordable MSD as a trigger and the point is no longer valid. An HCP opinion is required only when an MSD incident occurs that exceed the action trigger. Likewise, it is not necessary for each and every HCP that is involved with the case to provide a written opinion. A written opinion from the primary treating HCP is needed to provide the employer with the basic information required by paragraph (q) of the final rule. If the initial is an occupational health nurse, and the case is referred immediately to a physician, there is no need for the occupational health nurse to provide a written opinion, the opinion of the physician will be adequate. Likewise, it makes no sense for a physical therapist or some other HCP who is strictly providing treatment to provide a written opinion. However, if the employer sends the employee to a specialist, a written opinion to the employer would be useful to see if the more specialized knowledge of the specialist HCP changes the need for restrictions, results in a different diagnosis, etc.

This paragraph also requires an employer to ensure that the employee promptly receives a copy of the opinion sent to the HCP. Several commenters opposed this provision (Exs. 30-3765, 30-4185, 30-4567), arguing that 29 CFR Part 1910.1020 gives better access to medical info (Exs. 30-4185), that oral communication between HCP and employee is adequate (Exs. 30-4185, 30-4567), that the employer should not be accountable for communications between the HCP and the employee, (Exs. 30-3765, 30-4567), and that similar problems in the bloodborne pathogens standard cause problems (Ex. 30-4567). In a representative comment, the American Ambulance Association stated that:

A similar provision exists in the Bloodborne Pathogen standard and has been the cause for numerous violations by OSHA inspectors. This proposal will produce the same consequence. Note that during an examination and treatment by a healthcare professional, the employee and healthcare professional are present, while the employer is not. It is appropriate to assume that the healthcare provider communicates with the employee, just as healthcare professionals ordinarily communicate with patients.

To interject the employer into the communications is ludicrous. To further require the physician to produce a written document, that is not produced in the ordinary course of business, and to require the employer to obtain that document and furnish it to the employee is a process fraught with error. If OSHA's intent is to assure that employees receive a written document from a healthcare provider, then OSHA should require the healthcare provider to produce the document and hand it to the employee (Ex. 30-4567).

It appears that these commenters did not realize that the only requirement put upon the employer is to simply provide a copy of the written opinion the employer receives to the employee. A separate written report for the employee is not required. OSHA continues to believe that a copy of the written report is essential if the employee is to participate in his or her own protection. It is particularly important for the employee to be knowledgeable about what work restrictions, if any, he or she has been assigned and for how long they will apply. Therefore, OSHA has included the requirement in the final rule.

Confidentiality for Non-Workplace Information

Paragraph (p)(5) requires employers to instruct the HCP that any findings, diagnoses, or information unrelated to workplace exposure to risk factors must not be included in the written opinion or communicated to the employer,

except when authorized by state or federal law. The proposed rule contained a similar provision. This requirement is intended to encourage employees to disclose to the HCP all information about their health, and their activities both on and off the job, that could have a bearing on the MSD.

Full disclosure by employees will assist HCPs in evaluating the causal role of occupational risk factors and in determining the nature and duration of appropriate work restrictions. HCP's need this information to recommend work restrictions and follow-up that fit the employee's capabilities. This information will also enable the HCP to inform employees about activities, including non-work activities, that could aggravate the MSD and delay or prevent recovery. It is important for employees to know about any changes they can make to their on-and-off the job activities that will reduce their exposure to MSD hazards so that they may participate effectively in the recovery process. An example of an activity that sometimes must be postponed is a recreational activity that could place stress on the injured area of the body during the recovery period.

Employees will be reluctant voluntarily to disclose information about their health or outside activities if confidentiality is not maintained. MSDs may be associated with a variety of conditions, including hypertension, diabetes, kidney disorders and pregnancy, as well as the use of certain prescription drugs. See Ex. 30-3004 at p. 5; Ex. 30-3167. However, many employees would not want this health information revealed to their employers. The privacy protection accorded medical records under state and federal laws reflects general agreement that disclosure of information about a person's health status could result in embarrassment, stigmatization and discrimination in the workplace and elsewhere. See *Doe v. City of New York*, 15 F.3d 264, 267 (2d Cir. 1994) ("Extension of the right to confidentiality to personal medical information recognizes that there are few matters that are quite so personal as the status of one's health, and few matters the dissemination of which one would prefer to maintain greater control over.") Similarly, information about employees' private off-the-job activities could be embarrassing and harmful if disclosed. Therefore, OSHA believes that it is important to preserve the confidentiality of personal information revealed by employees to the HCP that is not related to workplace exposure to MSD risk factors.

OSHA explained the need for this kind of privacy protection in the proposed rule, as follows:

The confidentiality provision is necessary to ensure that employees will be willing to provide complete information about their medical condition and medical history. Employees will not divulge this type of personal information if they fear that employers will see it or use it to the employee's disadvantage. For example, employees may fear that their employment status could be jeopardized if employers know that they have certain kinds of medical conditions, which may be completely unrelated to work or exposure to MSD hazards, or if they are taking certain kinds of medication (e.g., seizure medication, an anti depressant). In this sense, the ergonomics rule is * * * intended to be consistent with the confidentiality requirements of the Americans with Disabilities Act. 64 Fed. Reg. 65844.

OSHA recognizes that information subject to protection under the final rule may, in some circumstances, be disclosable under state or other federal law. For example, many state laws authorize the disclosure of medical information to employers in connection with workers' compensation claims. The agency does not intend the final rule's confidentiality requirement to conflict with state or federal law authorizing disclosure, and has included language to that effect in paragraph (p)(5).

The AFL-CIO supported the confidentiality requirement, noting that it is consistent with similar provisions in other OSHA standards and with guidelines in the American College of Occupational and Environmental Medicine (ACOEM) Code of Ethical Conduct (Ex. 500-218, p.117). Other comments were also supportive (See, e.g. Exs. 30-3686, 32-185-3-1). However, a substantial number of commenters were critical of the provision. These parties argued that prohibiting HCPs from disclosing information about the contribution of non-occupational risk factors will make it impossible for employers; (i) to determine whether a reported MSD is work-related, (ii) to comply with the final rule's requirements to monitor the condition of an employee with a work restriction to determine whether the MSD is resolving, and to institute effective hazard control measures for the problem job, and (iii) to evaluate a claim for workers' compensation benefits arising from the MSD. These arguments, and OSHA's responses, are discussed below.

1. Confidentiality and Work-Relatedness Determinations

A number of commenters argued that the confidentiality requirement would

seriously hamper the employer in making determinations required by this final rule, and by the Recordkeeping rule in 29 C.F.R. Part 1904, about whether reported MSDs are work-related (see, e.g. Exs. 30-3004, 30-3061, 30-3086, 30-3167, 30-3177, 30-3231, 30-4334, 30-4564, 30-4674, 30-4713, 30-4843, 30-4844). Combe Inc. argued that:

The unreasonable restraints the Proposed Standard places on the employer's ability to obtain information to meaningfully evaluate the work-relatedness of an employee's MSD claim further creates an environment of uncertainty and will force the employer into possibly unnecessary or deficient decision-making. Section 1910.932(a) of the Proposed Standard expressly provides that the HCP must be instructed 'that any findings, diagnoses or information not related to workplace exposure to MSD hazards must remain confidential and must not be put in the written opinion or communicated to the employer.' Thus, if Combe were to receive a single carpal tunnel syndrome complaint from an employee on one of its assembly lines * * * It would be barred from learning whether this employee has any of the non-occupational risk factors the scientific literature associates with the development of carpal tunnel syndrome * * *. Because the Proposed Standard would prohibit Combe from learning this essential non-occupational risk factor information or even from learning if the HCP inquired about this critical data or evaluated it properly, Combe would be unable to determine if the new claim is, in fact, the result of non-occupational factors or a deficiency in its heretofore successful ergonomic interventions (Ex. 30-3004, pp. 5-6).

In a similar vein, the Chamber of Commerce argued:

[T]he fact that employers cannot receive any information related to non-work factors necessarily means that they will conclude that an employee complaint is work-related. After all, if employers are deprived of information about possible non work-related causes, what is left for them to consider? Regardless of the real cause of the musculoskeletal complaint, in many cases employers will be forced to conclude that the injury is [work-related] because there will be—and because there can be—no evidence of exposures outside the workplace (Ex. 30-1722, p. 78).

These commenters correctly point out that employers must sometimes consider non-occupational factors, including pre-existing medical conditions, in deciding whether events or exposures at work "caused or contributed" to an MSD. See definition of the term *Work-related* in paragraph (z). However, they misunderstand the MSD management provision in arguing that the confidentiality requirement will deprive employers of information necessary to make work-relatedness determinations. The MSD Management

provisions in paragraph (p), including the confidentiality requirement, apply when an employee has experienced an MSD Incident in a job that meets the Action Trigger. "MSD Incident" is defined to include only work-related MSDs meeting certain criteria. See paragraph (z). Therefore, the employer must decide that an MSD is work-related *before* it is required to implement the MSD Management requirements in paragraph (p).

Moreover, OSHA believes that it will rarely be necessary to delve into employees' private lives to make this determination. In most cases, employers will be able to decide if work is a contributing causal factor based on the type of injury and the nature of the employees' work activities. The final rule will facilitate this process because it includes a Basic Screening Tool that allows employers to determine whether risk factors are present in the job at levels of concern. In these cases, confidentiality protection is necessary to assure full disclosure to HCPs.

2. Confidentiality and the Employer's Duty To Follow-Up on the Employee's Recovery and To Control MSD Hazards

Some parties argued that the confidentiality requirement is fundamentally inconsistent with the duty imposed on the employer to check up on the progress of an employee with a work restriction to see that the injury is resolving, and to control the MSD hazards in problem jobs. The comment submitted by Layflat Products, Inc. is representative:

OSHA cannot have it both ways. * * * Employers should not be forced to undertake workplace accommodations designed, at least in part, to enable the employee to continue to work without aggravating an MSD, or to provide an opportunity to recover, while at the same time effectively barring employers from having any effective means to prevent an employee from continuing to engage in conduct outside of work which the treating HCP has concluded and advised the employee will aggravate or prolong the MSD and, thereby, nullify the remedial efforts which the proposed standard would mandate the employer to take. * * * The preamble to the proposed rule also at least suggests that the employee's progress in recovery may have *some* bearing on the determination whether a proper "job fix" has been accomplished (Ex. 30-3061).

The NSBU voiced concern that "numerous [health] conditions make contributions to musculoskeletal complaints. * * * In addition a vast number of outside activities engaged in by employees may contribute equally or much more substantially to such complaints. Yet employers—who would be required to march their workplaces

along the path of incremental abatement at great cost and disruption—are not allowed to even contemplate the potential role of such individual pursuits, activities or conditions" (Ex. 30-3167). (See also Exs. 30-1722, 30-3211, 30-3231, 32-337-1)

OSHA acknowledges that the confidentiality requirement is a compromise. At the same time, OSHA believes that confidentiality is essential to ensure employees' willingness to disclose personal health and other private information to HCPs, who, in many cases, make the initial recommendation about work restrictions. In OSHA's view, assuring that HCPs have access to information necessary to fulfill their central role in the MSD Management process is of overriding importance.

OSHA also believes that maintaining confidentiality in the personal information employees provide to HCPs will not seriously disadvantage employers. The purpose of work restriction requirements is to ensure that the injured employee's exposure to workplace risk factors is reduced or eliminated during the recovery period. The employer must know of the specific activities or motions to be restricted and what jobs, if any, satisfy these restrictions. Once the employee has been placed in a job that rests the affected area, or is removed from work entirely to recover, the employer's compliance obligation is satisfied, even if the employee's recovery is complicated by non-occupational factors. Thus, the confidentiality requirement should not hamper the employer's ability to comply with MSD Management requirements.

It is true that employers have a financial interest in ensuring that employees do not engage in non-work activities that could prolong the period for which WRP benefits must be paid. However, the final rule contains mechanisms to shield employers from the costs of prolonged WRP. The rule provides a procedure for HCPs to inform employees about medical conditions associated with exposures to risk factors, and any non-work activities that could impede their recovery. This information, conveyed directly by the HCP, will go far toward encouraging employees to seek appropriate treatment, and to refrain from potentially harmful outside activities during recovery. The rule also reduces the maximum duration of WRP benefits from six months, as proposed, to ninety calendar days.

OSHA has also addressed the concerns of some commenters that the confidentiality requirement could

undermine employer's efforts to control MSD hazards. Under the proposed rule, employers could have been required to institute control measures incrementally when MSDs occurred in problem jobs. Commenters correctly pointed out that if the success of ergonomic interventions is to be measured by the occurrence of MSDs in problem jobs, employer knowledge about non-occupational factors associated with those MSDs assumes greater significance.

However, the final rule establishes different and more definite criteria for reducing MSD hazards. As explained in the preamble discussion of paragraph (k), the final rule sets out concrete steps that employers may take to reduce MSD hazards to acceptable levels. When employers take these steps, the occurrence of an MSD in the job does not require further action as long as the controls are still in place and functioning and no new hazards have arisen. OSHA believes that these changes, reflected in paragraph (k), address the concerns raised about the effect of the confidentiality requirement on the employer's hazard control obligation. For these reasons, OSHA concludes that preserving the confidentiality of information unrelated to occupational exposure to risk factors is necessary to effectuate the purposes of the standard and will not work an undue hardship on employers.

3. Confidentiality and Workers' Compensation

Finally, some commenters argued that the restrictions imposed upon HCPs' disclosure of information could preclude employers from evaluating workers' compensation claims arising from MSDs (see, e.g., Ex. 30-4564, 31-324, 31-338). However, the final rule makes clear that the confidentiality requirement does not apply when disclosure is authorized by state or federal law. Thus, in a case involving a claim for workers' compensation benefits, the HCP is subject to the ordinary processes and procedures established by the state for obtaining relevant information. Nothing in the final rule is intended to conflict with, or hamper the operation of, state workers compensation systems.

Providing Information to the HCP

The final rule, like the proposed rule, requires the employer to provide information about the job and workplace conditions to the HCP conducting the assessment. The employer must provide the HCP with a description of the employee's job and information about the MSD hazards in

the job and a copy of the ergonomics standard. These requirements to provide information to the HCP are slightly different than the proposed rule. The final rule does not carry forward the proposed requirements to provide a summary of the standard to the HCP, the requirement to provide workplace walkthroughs to the HCP, or the requirement to provide a description of available work restrictions.

Many commenters supported the proposed provisions pertaining to the information that must be provided to the HCP about the workplace (see, e.g., Exs. 30-710, 30-3826, 30-3686, 30-4540), whereas others stated that some or all of the provisions in this paragraph should be deleted (see, e.g., Exs. 30-3765, 30-3813, 32-300-1, 30-652). For example, the Dow Chemical Company suggested that OSHA delete this entire section, because (1) developing job descriptions would be burdensome, (2) gathering the information would create a time delay in getting an employee to an HCP, and (3) this information would not impact the quality of the care the injured employee receives (Ex. 30-3765).

Some commenters thought the requirement to provide information to the HCP was redundant with other requirements in the proposal or other existing OSHA regulations (see, e.g., Exs. 30-3813). Others stated that creating and providing this material places a burden on employers (see, e.g., Exs. 30-2725, 30-4567, 30-4607).

Information About the Employees Job and the MSD Hazards Within the Job

Both the final rule and the proposal require the employer to provide the HCP with a description of the employee's job and information about the MSD hazards in the job. This provision received very little specific comment. The only specific objection, made by several commenters, was that detailed job descriptions are not available (see, e.g., Exs. 30-2725, 30-3392, 30-3765).

Paragraph (p)(3)(i) of the final rule requires employers to provide a description of the employee's job and information about the hazards in it. This information is needed to assist HCPs in providing both accurate assessment and effective management of MSDs. Without such information the HCP may not be able to make an accurate evaluation about the causes of the MSD or may not be able to prescribe appropriate restricted work activity. OSHA believes that providing HCPs with information about the results of any job hazard analysis that has been done in that job ensures that the HCP has the most complete and relevant information for

evaluating and managing the recovery of the injured employee. Many stakeholders have told OSHA that they already provide this type of information to the treating HCP in order to familiarize the provider with the employee's job and associated workplace risk factors and ultimately to facilitate resolution of the MSD (Exs. 26-23 through 26-26).

If the HCP is already on site, he or she is likely to be familiar with the jobs in the workplace, the MSD hazards identified in the hazard determination of the employee's job, and what jobs or temporary alternative duty may be available. However, HCPs who are not routinely on site generally do not have this workplace-specific information and employers must provide it in these cases. It is essential that HCPs charged with the responsibility for MSD management know or be provided with this information if they are to successfully manage the cases of the injured workers. Because employers will have tested the injured employees job against the job hazard screen in paragraph (f), the employer will already have some idea of the hazards in the employee's job, and it should not be difficult to pass this information on to the HCP.

While some companies routinely keep detailed written job descriptions, other companies (especially small firms) may not have detailed written job descriptions immediately available. It is not vital that the employer provide the HCP with an enormously detailed description of the employee's job. A general description of the employee's job duties that contains enough detail to help the HCP perform an appropriate evaluation and develop an informed opinion of the case will suffice.

OSHA recognizes that this requirement places burdens on employers. However, the Agency believes these burdens are more than outweighed by the benefits that accrue from providing the HCP with information about the employees jobs and the MSD hazards in that job. As a recent journal article stated "To make appropriate recommendations about return to work, the health care provider should know the physical demand characteristics of the job the worker is expected to perform" (Ex. 502-284). Of course, the costs associated with this requirement have been included in the economic analyses for the final rule.

Copy of the Standard and a Summary of the Standard

The proposed rule would have required the employer to provide a copy of the ergonomics standard, as well as

a summary of the standard, to the health care professional. The final rule simply requires the employer to provide a copy of the standard. Several commenters objected to the proposed requirements (Exs. 30-3765, 30-4567), arguing that they are not needed for diagnosis or treatment (Ex. 30-3765), are burdensome (Ex. 30-4567). The American Ambulance Association asked what would suffice for a summary of the standard (Ex. 30-4567). A few commenters suggested that OSHA create a non-mandatory appendix containing the required summary of the Standard (Ex. 30-3284, 30-3686, 31-307). Several commenters suggested deleting the requirement for a summary (Ex. 30-2216, 30-3813, 30-3922). For example, the Organization Resource Counselors argued that "[t]he standard should be sufficiently straightforward [so] that the HCP can understand it without needing a special 'summary' of the standard" (Ex. 30-3813). The A.O. Smith Corporation suggested that, as an alternative, OSHA could offer training to medical providers and certify them for this practice area (Ex. 30-2989).

OSHA has included the requirement to provide a copy of the standard to the HCP in order to assure that HCPs know how quickly employers must provide employees with access to the HCP and that employers must analyze any job in which an MSD incident is reported. Further, the HCP needs to be informed about the information they are to provide in the written report required by paragraph (q) of the final rule. OSHA has not included the proposed requirement to provide a summary of the standard to the HCP, finding that the summary is a redundant requirement that is not needed, since the standard itself is reasonably short and is easily read.

Descriptions of Available Restrictions

The proposed rule would have required employers to provide information on work restrictions that were available during the recovery period and that were reasonably likely to fit the employee's capabilities during the recovery period. OSHA believed that providing this information to HCP would help facilitate the appropriate matching of the employee's physical capabilities and limitations with a job that would allow an employee to adequately rest the injured area while still remaining productive in other capacities. Employers with ergonomics programs have discovered that the more detailed information and communication provided to the HCP about available alternative duty jobs, the better the HCP understands the causes

of the problem and knows what work capabilities remain. As a result, these employers have found that the HCP is more likely to recommend restricted work activity rather than removal from work during the recovery period. In addition, it is more likely that HCPs are able to recommend much shorter removal periods when removal is combined with restricted work activity as a means of facilitating recovery.

A number of commenters argued that the employer cannot determine the need for restricted work, before an evaluation by a health care professional. (Exs. 30-1091, 30-1671, 30-3033, 30-3034, 30-3035, 30-3185, 30-3188, 30-3258, 30-3259, 30-3284, 30-3392, 30-3765, 30-3813, 30-4159, 30-4536, 30-4547, 30-4549, 30-4562, 30-4607, 30-4647, 30-4713, 30-4776, 30-4800, 32-300-1) In a representative comment, the Southern California Edison company remarked that:

First, this calls for the employer to somehow anticipate the HCP's diagnoses and evaluation of physical limitations before the employer has even seen the HCP. Second, an HCP is better qualified to make an initial assessment of an employee's physical limitations (*i.e.*, lift no more than 10 pounds, do not stand for more than 4 hours, etc.). The employer then is best qualified to determine appropriate work restrictions taking into account the physical limitations described by the HCP (Ex. 30-3284).

OSHA agrees with these commenters that, for at least some MSD incidents, it is difficult to provide information about appropriate restrictions to the HCP, and that the HCP is in a better position to tell the employer what restrictions or physical restrictions must be implemented while the employee is recuperating from an MSD injury. Therefore, this provision has not been included in the final rule. However, the employer is required to implement any restrictions he or she finds necessary, and OSHA believes that there are some circumstances where the employer can implement restrictions before consultation with an HCP. The employer will also benefit from good communications with the HCP about what types of restricted work may be available, and should try to work cooperatively with the HCP to determine appropriate work.

Walkthrough Rights for the Health Care Professional

The proposed rule included a provision that would have required the employer to allow the health care professional to visit the establishment and walk through the establishment if the HCP wished to do so (64 FR 66073). OSHA's intent was to provide HCPs

with opportunities to look at the problem job and the available alternative duty jobs. This would have allowed the HCP to become familiar with the physical work activities the injured employee performs, and allow that the HCP to see if available alternative duty jobs would allow the employee to rest the injured area during the recovery period. OSHA did not intend to require employers to provide HCPs walkthroughs throughout the entire facility, and expected that workplace walkthroughs could be either informal or formal. Several commenters supported the HCP walkthrough provisions (see, *e.g.*, Exs. 3-52, 3-107, 30-4301, 31-242). The Washington Federation of State Employees Local 1488—AFSCME also recommended that the employer should be required to pay for the HCP's time and travel expenses for a walkthrough (Ex. 31-242). The Dow Chemical Company said that it was not opposed to the proposed provision, and that DOW encourages HCPs to visit their worksites (Exs. 30-3765). Southern California Edison stated that they also did not object to the proposed requirement, but recommended that OSHA specify that the employer is under no obligation to pay the HCP for the walkthrough (Ex. 30-3284).

A few commenters opposed the proposed walkthrough rights requirement (Ex. 30-3348, 30-3749, 30-4713, 30-5674). Freeborn and Peters argued that the walkthrough rights are not needed (Ex. 30-4713). The Society for Human Resources Management stated that the proposed requirement:

[w]ould be particularly burdensome for smaller employers who rarely have the kind of a relationship with an HCP that such a walkthrough would be practical. If OSHA chooses to maintain such a requirement, its application should be limited to larger employers and only for those HCPs whom the employer expects to use regularly * * * (Ex. 30-3749).

The Puerto Rico Manufacturing Association remarked that the proposed provision "[n]eeds to be narrowed, because it is disruptive to many operations * * *" and asked "[w]hat if every employee with a sign or symptom wanted his own HCP to assess his job?" (Ex. 30-3348).

OSHA has decided not to include an HCP walkthrough right in the final rule. While HCP walkthroughs have significant advantages in helping the HCP determine appropriate restrictions for injured workers, they are not absolutely necessary and could result in added burden to employers. As OSHA acknowledged in the proposal, there are other ways HCPs can acquire more in-depth information about the employee's

job and the MSD hazards in it. For example, employers can provide HCPs with the results of the job hazard analysis, photographs of the job, or videotapes of the job being performed.

Paragraph (q). What Information Must the HCP's Opinion Contain?

Paragraph (q) describes the types of information that should be included in the HCP's written opinion. This information includes: (1) the HCP's assessment of the employee's medical condition as related to MSD hazards in the employee's job; (2) any recommended work restrictions, including, if necessary, removal from work to allow for recovery, and any follow-up needed; (3) a statement that the HCP has informed the employee of the results of the evaluation, the process to be followed to effect recovery, and any medical conditions associated with exposures to risk factors; and (4) a statement that the HCP has informed the employee about work-related or other activities that could impede recovery from the injury.

These four elements to be addressed in the HCP's opinion were included in the proposal, and OSHA received no significant comment requiring discussion in the final rule. OSHA notes that "work restrictions" are defined in paragraph (z) of the final rule as limitations on the employee's exposure to risk factors present in the job giving rise to the MSD incident, and may include limitations on work activities in the current job, transfer to an alternative duty job, or complete removal from work to permit recovery. OSHA reiterates here the point made in the proposal about the importance of specific work restriction recommendations. 64 Fed. Reg. 65,845. The HCP should describe in as much detail as possible the nature and duration of work restrictions so that employers will have maximum flexibility to ensure that employees can remain productive while resting the affected area.

Paragraph (r) What Must I do if Temporary Work Restrictions or Removal From Work are Needed?

Paragraph (r) describes the actions required when an MSD incident has occurred in a job with risk factors that exceed the action level, and the employer or HCP determines that temporary work restrictions or removal from work are needed.

Paragraph (r)(1) first makes clear that the employer must either determine the work restriction or removal himself or herself, or comply with the recommendations of an HCP, either by

temporarily placing the injured employee in an appropriate alternative or "light duty" job, or, if necessary, by temporarily removing the employee from work.

Paragraphs (r) (2) and (3) require the employer to maintain the injured employee's wages and benefits when work restrictions are necessary.

Work Restriction Protection (WRP)

A. Necessity for WRP

"Work restriction protection" or "WRP" refers to the requirements in paragraphs (r)(2) and (3) for maintaining an injured employee's employment rights, wages and benefits when temporary work restrictions are necessary. As explained in the proposed rule, 64 FR 65848–65852, and in the discussion below, WRP requirements are designed to encourage employees to report MSDs and their signs and symptoms as early as possible, and to participate actively in MSD management. Early reporting of MSDs by employees will contribute to the success of the final rule in several important ways. First, unlike other OSHA standards, the rule does not require employers to monitor their workplaces for hazards, but rather to evaluate employee reports of MSD signs or symptoms to determine whether further action is necessary. Employee reports must be evaluated to determine whether an MSD incident has occurred in a job with risk factors exceeding the standard's action level. If the job has risk factors that exceed the action level, the employer must implement several elements of an ergonomics program, including job hazard analysis, and must provide necessary work restrictions (including work removal, if necessary) and MSD management.

This approach depends upon employees' willingness voluntarily to report when they first experience signs or symptoms at work. As the agency noted in the proposed rule, "[i]f employees are not willing to come forward and report MSDs, serious MSD hazards in that job will go uncontrolled, thus potentially placing every employee in that job at increased risk of harm." 64 FR 65861. Early reporting permits employers to identify problem jobs and institute corrective measures before other employees in those jobs become injured. Thus, timely reporting by employees is central to the final rule's hazard identification and control mechanisms.

Early reporting is also crucial in maximizing the standard's benefits for injured employees and in minimizing costs to employers and employees. The

record establishes that MSD treatment is more likely to be successful if provided early, before the disorder has become debilitating (see *e.g.*, Exs. 3–56; 3–59; 3–179; 3–184. See also Testimony of Dr. Evanoff (Tr. 1530–31; 1628); Dr. Herbert (Tr. 1698–99); Dr. Connell (Tr. 2833); Dr. McCunney (Tr. 7649–50); Dr. Bernacki (Tr. 7687); Dr. Piligian (Tr. 7883–5); Dr. Frank (Tr. 1388); Dr. Cherniak (Tr. 1234–5). Early detection and intervention also reduces the severity of MSDs and the level of treatment required to address them (see *e.g.*, Exs. 3–23; 3–33; 3–50; 3–56; 3–59; 3–121; 3–124; 3–151; 3–162; 3–179; 3–184) and reduces the number of days employees must spend on restricted duty or away from work entirely (see Ranney 1993, Ex. 26–913; Day 1987, Ex. 26–914; Oxenburgh 1984, Ex. 26–1367). Consequently, the early reporting of MSDs substantially reduces both the physical and economic toll of these disorders.

The participants in the rulemaking had conflicting views on whether, and to what extent, WRP is needed to ensure early reporting of MSDs. After a careful review of the literature, testimony and comments on this issue, OSHA finds persuasive evidence that, without WRP, employees will be reluctant to report MSDs and their signs and symptoms at an early stage. In the preamble to the proposed rule, OSHA discussed a variety of studies in the scientific literature indicating that MSDs are underreported in federal and state occupational injury and illness statistics. These studies show that a substantial percentage of work-related MSDs are not recorded on the OSHA log of occupational injuries and illnesses, and are therefore excluded from the Bureau of Labor Statistics (BLS) data (see *e.g.*, Exs. 26–28; 26–1258; 26–920; 26–922; 26–1259; 26–1261; 26–1260). They also demonstrate that large numbers of workers with medically confirmed MSDs do not file claims for workers' compensation benefits (see *e.g.*, Exs. 26–1258; 26–1212; 26–920). See also 64 FR 65851–52; 65980–83 and Table VII–2. Based on this and other evidence, OSHA preliminarily estimated that at least half of all work-related MSDs are not reflected in the BLS statistics. 64 FR 65981.

Researchers, physicians, and workers themselves supported OSHA's finding that MSDs are underreported at the federal and state levels. NIOSH agreed that there is a substantial likelihood that the actual number of MSDs exceeds the BLS estimates, and that this is due in part to underreporting of the true number of work-related health problems on the OSHA 200 logs (Ex. 32–450–1).

Other commenters highlighted the growing literature in the workers' compensation field, including recent studies confirming that only a small percentage of workers with back, upper extremity and other MSDs file claims for benefits (see *e.g.*, Ex. 37–14, p. 9 [Emily Spieler, citing, *e.g.*, Morse 2000]; Ex. 500–203 [Dr. Michael Erdil, citing, *e.g.*, Rosenman 2000]; Ex. 32–339–1, Ex. 500–218; Tr. 2399–2301 [Dr. Boden]).

Physicians and researchers testified that the findings in the literature were consistent with their experiences (Tr. 839–40 [Dr. Armstrong]; Tr. 1021 [Dr. Punnett]; Tr. 1115 [Dr. Erdil]; Tr. 1886–87 [Dr. Owen]; Tr. 2399–2401 [Dr. Boden]). Dr. Michael Erdil stated that "my clinical experience as an occupational physician treating thousands of patients with MSDs is consistent with these studies' finding that employees often do not report MSDs they believe to be caused by work." Tr. 1115. Emily Spieler, an author and lecturer on workers' compensation issues, and a former Commissioner of the West Virginia Workers' Compensation Fund, wrote that

[t]he findings regarding under-filing are consistent with my own observations regarding workers' claims filing behaviors. Many workers with compensable injuries do not file claims for benefits. Both my own experience and current literature suggest that under filing far exceeds overreporting in workers compensation systems. There are serious implications regarding the prevention and compensation of MSDs that flow from this.

Ex. 37–14, p. 10.

Workers have given a variety of reasons for not reporting MSDs to their employers or failing to seek workers' compensation benefits for these disorders (see 64 FR 65849–50; 65980–81). Many workers expressed the fear that if they report a work-related injury, they will lose their job or be transferred to an alternative job at reduced pay and benefits, or suffer other forms of job discrimination (see Exs. 3–121; 3–151; 3–183; 3–184; 3–186). Employees voiced these concerns repeatedly during the hearing (see Tr. 3602 [Corey Thompson]; Tr. 5820 [Dave [S]aksewski]; Tr. 5832 [Scott Bean]; Tr. 6022 [Dennis Norton]; Tr. 5901–02 [Victor Henderson]; Tr. 7733–34 [Sandy Brooks]; Tr. 7736–37 [Jeanette Di Florio]; Tr. 7545–46 [Penny Siedner]; Tr. 7998 [Al Close]; Tr. 8013 [Bob Zielonka]; Tr. 9561 [Robert Wabol]; Tr. 10,720–21 [Richard Sorokas]; Tr. 12,530 [Buzz Vsetecka]). Dave [S]aksewski recounted his experience at an automobile assembly plant:

As I was new in the facility, I received many less than desirable jobs. On many of the assembly jobs my hands or arms ached at the end of the shift or my back was so sore from lifting that I could not do the things on weekends that I would have enjoyed doing and I had normally done in the past. Things like fishing or playing ball went on the back burner until I felt like I could do them without further hurting myself.

I never reported any of these problems to the medical department because as a probationary employee you just did not complain about anything, even if I was a union member. * * * The end result of a complaint from me would have been no overtime, maybe a job restriction, or a disputed compensation claim that I had injured myself at home working in the garden.

I can tell you from personal experience that people do not report MSDs until they get bad enough where they can no longer tolerate the job.

Tr. 5822–23. Autoworker Al Close agreed, stating “employees are still reluctant to report early symptoms of injury. This is due to intimidation by middle management and by the fact that they will get work restrictions or be sent home with the loss of pay.” Tr. 7998. Employee representatives from a broad spectrum of industries echoed these sentiments (see *e.g.*, Ex. 32–182–1 [AFSCME]; Ex. 32–185–3 [UAW]; Exs. 32–339–1; 500–218 [AFL–CIO]; 32–198–4 [UNITE]).

Employers, physicians, and others acknowledged that concerns about economic loss and retaliation influenced employees’ decisions not to report their MSDs or to seek treatment or compensation for them. Peter Meyer, Human Resource Director for Sequins International testified:

It is true that workers in most situations don’t report pain and work-related injuries, especially when they are concerned about their jobs. They are continually concerned about the hours that they are going to work so it makes sense that workers wouldn’t report something that they might think jeopardizes their jobs.

Tr. 17350. Dr. George Piligian testified that the most common reason given by employees for delaying treatment for MSDs was the fear of losing income. He stated, “[t]his was the biggest obstacle, especially in those that were not high-paying sectors of the work force. Therefore, wage replacement, especially when you first have symptoms, is vital. People will not come forth.” (Tr. 7822–3). See also Tr. 1115 (Dr. Erdil); Tr. 1724 (Dr. Robin Herbert).

This evidence demonstrating that economic concerns are a powerful motivating factor in workers’ behavior affecting their health is consistent with that adduced in previous OSHA rulemakings. For example, OSHA

commented on the evidence that lead-exposed workers would be reluctant to participate in medical surveillance program, as follows:

Much of the evidence in the lead proceeding documents the extent to which worker participation is adversely affected by the fear that adverse employment consequences will result from participation in medical surveillance programs. This problem was emphasized by the testimony of many workers and worker representatives.

* * * Evidence concerning the issue of worker fear impeding participation, however, was not confined simply to testimony from worker representatives. A wide variety of experts verified the existence of this problem, as did several industry representatives. The evidence suggests that economic disincentives to worker participation are currently a problem in the lead industry.

43 FR 54442.

OSHA believes that the two patterns of employee behavior discussed above—the failure to report work related MSDs to employers, and the failure to claim workers’ compensation benefits for these disorders—underscore the need for WRP in the final rule. OSHA’s recordkeeping regulations in Part 1904 already require employers to inform employees of the need to report injuries and illnesses promptly, and to have a clear procedure for reporting. Moreover, section 11(c) of the OSH Act protects employees who report their injuries from acts of discrimination or retaliation by employers. In view of the evidence that these provisions do not eliminate underreporting on the OSHA logs, it is unreasonable to believe that similar requirements and protections in the final rule, standing alone, will be sufficient. Indeed, without wage protection, the standard’s MSD management provisions, including mandatory work restrictions or work removal when recommended by an HCP, will likely increase the pressure on employees not to inform their employers of work-related MSDs, and thereby exacerbate an already serious problem.

The evidence on employees’ dissatisfaction with workers’ compensation benefits, and avoidance of workers’ compensation systems, is also relevant. There was substantial testimony that employees view the workers’ compensation system as ineffective and cumbersome to use (see *e.g.*, Ex. 500–218). Emily Spieler summarized these problems as follows:

There are several tiers of problems with the adequacy of compensation, for both compensatory and deterrent effects. First, many people do not file claims that, if filed, might be compensable. Second, in some states, many claims involving work-related MSDs may not be compensable, even if filed.

Third, payment in apparently compensable claims for MSDs, and in particular for repetitive stress-related MSDs, may not be paid due to controversy, or may be delayed, or may be settled for compensation below the statutory amounts.

The result is twofold. First, workers may be discouraged from filing workers’ compensation claims or from otherwise alerting their employers to developing MSDs. Second, workers compensation fails to provide employers with adequate incentives for the prevention of disabling MSDs.

Ex. 37–14, p. 10. This evidence demonstrates that the potential availability of workers’ compensation benefits alone is insufficient to ensure full and timely reporting of MSDs and their signs and symptoms, and further underscores the need for a requirement protecting employees’ wages and benefits during periods when work restrictions are necessary.

In contrast, OSHA was not convinced by those commenters who argued that the record does not demonstrate the need for WRP. The evidence and argument presented by these commenters was not as concrete or specific. They maintained principally that: (i) OSHA’s own audits conducted in 1996 and 1997, and statements made by some OSHA officials and experts, demonstrate that employer logs are accurate; (ii) there is no need for WRP because most MSDs require little or no time away from work; and (iii) OSHA itself concluded that WRP will not rectify underreporting. These arguments are discussed below.

In 1998 and 1999, OSHA performed audits of employers’ injury and illness records. The 1998 audit examined a sample group of employers’ 1996 records, while the 1999 audit examined records for 1997 (see Ex. 500–168, Appendices A and B). A number of commenters argued that the results of these audits undermined OSHA’s finding of widespread underreporting of MSDs on employers’ logs (see *e.g.*, Exs. 500–168; 30–3347; 32–78–1; Ex. 30–1722; Ex. 30–3956). The AISI’s comment is representative:

OSHA went to extensive lengths to perform a statistically significant audit of the accuracy of OSHA 200 recordkeeping. The results of the official OSHA audits of OSHA 200 logs for 1996 and 1997 are compelling. OSHA found that, at the 95% threshold of accuracy, the percentage of establishments with accurate records [for total recordable cases (TR) and for lost workday cases (LW)] was [for 1996, 87.96% TR and 86.57% LW; for 1997, 91.93% TR and 89.69% LW] * * *. Based on * * * review of the studies cited by OSHA [in the proposal], it is clear that they do not support OSHA’s allegation of a substantial and widespread underreporting of occupational injuries and illnesses. Rather than looking back to limited reviews of

"ancient history." OSHA is required to look at the best available evidence, which is the 1996 and 1997 audit reports. They demonstrate an extremely high level of accuracy in OSHA 200 recordkeeping from samples determined to be representative * * *.

Ex. 500–168, pp. 9–10, 21. The ORC also pointed to OSHA's audits:

[t]he [audit] process is centered around comprehensively checking both occupational and nonoccupational injury and illness records to identify misreporting and under reporting. Employee interviews are also used when the compliance staff deems them necessary. The results from the audits provide the only statistically reliable insights available into the quality of the OSHA data and the accuracy of employee reporting and employer recording practices.

Ex. 32–78–1 at 27. ORC noted that most of the studies cited by OSHA examine data that is more than a decade old and that may not reflect improvements due to the Agency's stepped-up recordkeeping enforcement efforts and recent guidance on the proper recording of cumulative trauma disorders (Ex. 32–78–1, p. 26). ORC and others also noted that Agency officials, including Assistant Secretary Charles Jeffress, have expressed confidence in the accuracy of BLS statistics (see e.g., Exs. 32–78–1, p. 27; 30–1722, p. 75–76; 30–3347).

OSHA's recent recordkeeping audits were designed to measure whether employer records accurately reflect injuries and illnesses that employees reported to them. Therefore, the auditors examined occupational records to identify the work-related injuries and illnesses that may have occurred to employees, including, where available, medical records, workers' compensation records, insurance records, payroll records, company safety incident reports, first-aid logs, and light duty rosters (Ex. 500–168–1, Appx. *Analysis of Audits on 1996 Employer Injury and Illness Recordkeeping, Audit Protocol* at 6, (v)). The audit protocol did not require the auditors to examine non-workplace records to determine whether employees within the sample group had suffered work-related MSDs which were not reported because the employees did not seek treatment from the employer or the employers' health insurance, file a worker's compensation claim, take leave, or otherwise enter the employer's records. *Id.* By contrast, a number of studies in the record examine non-workplace records and other sources in determining that MSDs are not accurately reflected in the OSHA logs. For example, in performing health hazard evaluations (HHEs) at several establishments, NIOSH found that a

high proportion of MSDs reflected in the records of employees' private health care providers, in confidential interviews, and in standardized questionnaires and surveys were not included in the employers' logs. NIOSH reported that:

These HHEs compared the OSHA 200 logs with work-related MSDs ascertained via the following mechanisms: (1) confidential medical interviews; (2) review of employee medical records of private health care providers; (3) health surveys utilizing standardized MSD symptom questionnaires; (4) health surveys defining cases as those with work-related symptoms and positive physical findings conducted by physicians performing physical examinations targeted to the musculoskeletal systems. We have no reason to believe that these HHEs are not representative of the likely widespread under-reporting of work-related MSDs.

Ex. 32–450–1. Moreover, several of the studies discussed in the proposed rule examine data sources that appear to be different from those considered in OSHA's audits (see e.g., Exs. 26–28; 26–1261; 26–1259; 26–1250).

For these reasons, OSHA believes that the recent audits do not undercut the findings in the literature that widespread underreporting exists. The logs are a reasonably accurate reflection of those injuries and illnesses actually reported by employees at work.¹³ OSHA believes that many recordable MSDs are omitted from OSHA logs and other workplace records because employees do not inform their supervisors, do not file a claim for workers' compensation, or do not seek treatment from the employer's medical staff or health insurance provider. This is apparent not only from the studies examining the logs, but also from the evidence on employee reporting behavior in the workers' compensation field, and the direct testimony of many workers themselves during the hearing. Considering the record as a whole, OSHA finds that there is reliable, persuasive evidence that MSDs are currently underreported in the OSHA injury and illness records.

Employer representatives also argued that OSHA's estimate in the proposed rule that "most MSDs do not result in any days away from work" (64 FR 65853) undermines the need for WRP (Exs. 32–211–1; 30–1722). The Chamber of Commerce argued that "[b]oth * * * propositions cannot be true: either large numbers of employees are refraining from reporting lost-time injuries to avoid significant financial losses, thus requiring WRP, or few such losses are

occurring—which means that [the] WRP provision is unnecessary." (Ex. 30–1722, p. 77.).

OSHA does not believe that the two propositions cited by the Chamber are inconsistent. As discussed above, a significant factor motivating employees not to report MSDs is the fear that they will be placed in a restricted duty job with reduced pay and benefits, and that they may also lose seniority or "bidding" rights. Thus, employees' concern about being out of work altogether is not the only, or necessarily the predominant, factor to be considered in evaluating the need for WRP.

Moreover, there is no fundamental tension between OSHA's conclusion that workers' fear of economic loss is a significant contributing factor to the high level of underreporting observed in the literature, and its estimate that most MSDs will not result in time away from work. As discussed further in the Significance of Risk and the Benefits chapter of the Final Economic Analysis supporting this rule, a significant proportion of all MSDs (approximately one-third) will result in some lost work time, and certain types of MSDs, such as carpal tunnel syndrome, require nearly a month to recover sufficiently to return to work (median length of time away is 25 days). Therefore, the prospect of losing work due to an MSD is a tangible one, and serves as a powerful stimulus to employees. Indeed, the record evinces strong and deeply held beliefs by many employees across industry sectors that reporting MSDs and their signs and symptoms will result in loss of pay and benefits, or other adverse employment action. Accordingly, concrete wage and benefit protections are necessary to counter employees' concerns about reporting MSDs.

Some commenters argued that there is no justification for requiring WRP in light of OSHA's preliminary conclusion that WRP would not increase the MSD reporting rate (see e.g., Exs. 32–211–1, p. 9; 32–234–2, p. 27). In the Preliminary Economic Analysis of the proposed rule, OSHA explained that it was then unable to quantify the incentive effects of WRP on employee reporting of MSDs, and therefore had no basis to estimate the costs and benefits attributable to increased numbers of MSDs reported (64 FR 66001). However, the agency "welcome[d] data and comments on the extent of MSD under reporting, possible increases in the reporting of MSDs that may occur after employers implement an ergonomics program, and on the incentive effects of the proposed standard on employee reporting of MSDs." *Id.*

¹³ The audits show that approximately 10% or more of injuries and illnesses reported by employees are not recorded in the logs.

As explained in the Final Economic Analysis, OSHA has identified several studies from the economics literature permitting the Agency to develop a methodology that enables it to estimate the impact of WRP on MSD reporting rates. Because wage and benefits protection requirements will likely substantially increase the number of employees who will report MSDs and their signs and symptoms, WRP is a reasonably necessary and appropriate component of the final rule.

B. Legal Authority for WRP

1. The OSH Act and Past OSHA Practice Require That OSHA Include WRP In This Standard

It is now well established that OSHA's authority to promulgate occupational safety and health standards "reasonably necessary or appropriate to provide safe or healthful employment and places of employment," 29 U.S.C. § 652(8), encompasses the authority, in appropriate cases, to include WRP provisions in those standards. Section 6(b)(7) provides that a standard should, "[w]here appropriate * * * prescribe suitable * * * control * * * procedures" to prevent hazards. 29 U.S.C. § 655(b)(7), and Section 8(g)(2) of the OSH Act provides that "[t]he Secretary * * * shall * * * prescribe such rules and regulations as he may deem necessary to carry out his responsibilities" under the statute. 29 U.S.C. § 657(g)(2). These provisions give OSHA broad authority to require employers to implement practices, such as WRP, that are reasonably necessary or appropriate to achieve OSHA's statutory mission—providing safe or healthful employment and places of employment. See 64 FR 65848–53 (Nov. 23, 1999).

Relying on both this statutory language and the OSH Act's legislative history, the D.C. Circuit affirmed a WRP provision in OSHA's 1978 lead standard requiring employers to maintain an employee's earnings and other rights and benefits during a work removal period of up to 18 months. *United Steelworkers of America v. Marshall (Lead)*, 647 F.2d 1189, 1230 (D.C. Cir. 1980), cert. denied, 453 U.S. 913 (1981). [Note: In the lead standard, the provision at issue was termed medical removal protection (MRP).] The court held that (1) the OSH Act gives OSHA broad authority to include WRP where necessary or appropriate to protect the health of workers, and (2) OSHA's inclusion of WRP in the lead standard was supported by the rulemaking record. *Id.* at 1228–40. The court held that "OSHA's statutory mandate is, as a

general matter, broad enough to include [WRP]." *Id.* at 1230. The court also found that OSHA had met its burden of demonstrating that WRP was reasonably necessary and appropriate by providing evidence that employees would resist cooperating with the medical surveillance program in the lead standard absent assurances that they would have economic protection in the event of a medical removal. *Id.* at 1237.

OSHA has followed a consistent practice of including WRP provisions in standards when the rulemaking records show that the provision is useful or necessary to achieve the purposes of the standard. OSHA has included similar WRP provisions in numerous other standards. See *e.g.*, 29 CFR 1910.1025 (Lead); 29 CFR 1910.1027 (Cadmium); 29 CFR 1910.1028 (Benzene); 29 CFR 1910.1050 (Methylenedianiline); 29 CFR 1910.1052 (Methylene Chloride). OSHA's inclusion of WRP in those standards was based upon findings that absent some wage protection employees would not participate in the medical surveillance provisions of the standards. See *e.g.*, Lead preamble, 43 FR 5440 (Nov. 21, 1978).

In 1987, OSHA omitted a WRP provision from its formaldehyde standard on the bases that the "nonspecificity of signs and symptoms [made] an accurate diagnosis of formaldehyde-induced irritation difficult," the symptoms of formaldehyde exposure often quickly resolved, and some employees would never be able to return to a work environment that contained any formaldehyde. 52 FR 46168, 46282 (Dec. 4, 1987). On review, however, the D.C. Circuit held that these justifications, which it characterized as "feeble" or "vague and obscure," were inadequate to justify OSHA's "swerve" from past practice. See *International Union v. Pendergrass (Formaldehyde)*, 878 F.2d 389, 400 (D.C. Cir. 1989). The court remanded the issue for OSHA's further consideration. OSHA eventually included a WRP provision in the standard:

On reconsideration, the Agency has concluded that [WRP] provisions can contribute to the success of the medical surveillance programs prescribed in the formaldehyde standard. Unlike some other substance-specific standards, the formaldehyde standard does not provide for periodic medical examination for employees exposed at or above the action level. Instead, medical surveillance is accomplished in the final rule through the completion of annual medical questionnaires, coupled with affected employees' reports of signs and symptoms and medical examinations where necessary. This alternative depends on a high degree of employee participation and

cooperation to determine if employee health is being impaired by formaldehyde exposure. OSHA believes these new [WRP] provisions will encourage employee participation in the standard's medical surveillance program and avoid the problems associated with nonspecificity and quick resolution of signs and symptoms that originally concerned the agency. 57 FR 22290, 22293 (May 27, 1992).

Formaldehyde makes clear that OSHA may not decline to include WRP in standards absent specific findings justifying such a "swerve" from past practice. The rulemaking record here does not support such a "swerve"; to the contrary, it shows that WRP could serve functions strikingly similar to those it serves in the formaldehyde standard. Substantial evidence shows that MSDs are currently underreported and that a significant reason for this underreporting is employees' fear that they will lose income, or even their jobs. In order to encourage employees to report MSDs, report them at an early stage, and participate in MSD management, OSHA must include WRP in this standard.

Despite the legal principles described above, however, a number of rulemaking participants argued that OSHA does not have authority to include WRP in this standard. Their reasons ranged from factors specific to this rule to more general assertions that OSHA never has authority to require WRP, and that the cases holding to the contrary were wrongly decided. OSHA responds to these comments below.

Some commenters stated that OSHA does not have authority to include WRP (or even provisions for work restrictions) in this standard because there are no "objective" triggers for removal. See *e.g.*, Ex. 500–188, p. 87. These commenters contended that in every other standard where OSHA has included a WRP provision, OSHA established (1) an "objective" exposure level for removal, and (2) "objective" medical criteria for removal. In this standard, they argued, employers will be forced to remove employees from work based solely on reports of "subjective symptoms." Ex. 30–4467, pp. 17–18.

This argument is based on erroneous conceptions of the WRP provisions in both OSHA's earlier standards and this one. First, other standards frequently require removal based upon a physician determination that removal is appropriate, even without "objective" triggers. In the lead standard, for example, an employee can be removed from work when "a final medical determination results in a medical finding * * * that the employee has a detected medical condition which

places the employee at increased risk of material impairment to health from exposure to lead.” 29 CFR 1910.1025(k)(1)(ii). This determination does not have to be based on objective tests; rather, it can be based upon a physician’s independent judgment. In the Cadmium standard, an employee can be removed based upon “signs or symptoms of cadmium-related dysfunction or disease, or any other reason deemed medically sufficient by [a] physician.” 29 CFR 1910.1027(11)(i)(A); see also Methylene dianiline 29 CFR 1910.1050(9)(i)(B)(1) (removal shall occur “on each occasion that there is a final medical determination or opinion that the employee has a detected medical condition which places the employee at increased risk of material impairment to health from exposure to MDA”).

Second, this standard does not require employers to provide WRP to employees based solely on employee reports of “subjective” symptoms. The employer makes the determination of whether an employee’s report qualifies as an MSD incident under this standard. See Paragraph (e). Employers can seek assistance in making these determinations by referring employees to a health care professional. In the end, however, it is the employer’s decision. Moreover, this final standard includes an Action Trigger in paragraph (f). If an employee who has suffered an MSD incident is not exposed on his or her job to risk factors at levels that exceed those on the screening tool in Table 1, the employer has no WRP obligations. See Paragraph (f).

In any event, neither the OSH Act nor any of the court decisions interpreting OSHA’s authority suggest that OSHA’s WRP authority is limited to protecting workers only against conditions that are easy to diagnose. On the contrary, the OSH Act gives OSHA broad authority to include provisions in standards that are reasonably necessary and appropriate to effectuate its statutory mandate. OSHA has found, based upon substantial evidence in the rulemaking record, that WRP is necessary to the effectiveness of this standard. This finding is not affected by the presence (or absence) of “objective” baseline tests for certain MSDs or the presence (or absence) of “objective” or baseline levels for removal.

Some commenters argued that OSHA does not have authority to include WRP in this standard because employees are exposed to some of the hazards at issue outside of the workplace. See *e.g.*, Ex. 500–197, p. III–76. But while it is true that OSHA may only regulate

“conditions that exist in the workplace,” *Industrial Union Dep’t, AFL–CIO v. American Petroleum Institute et al.* (Benzene), 448 U.S. 607, 642 (1980), OSHA is not precluded from regulating such conditions just because they may also exist outside the workplace. *Forging Industry Assn. v. Secretary of Labor (Noise)*, 773 F.2d 1436, 1442 (4th Cir. 1985). OSHA’s Occupational Noise standard, for example, establishes certain requirements that must be met to prevent or reduce the incidence of hearing impairment, a condition that can also be caused by exposure to excessive noise levels outside of work. And OSHA has previously required WRP where employees are also exposed to the hazard at issue outside of the workplace. For example, employees may be exposed to lead, cadmium, methylene chloride, and formaldehyde in varying degrees outside of work. In this case, OSHA has properly exercised its authority to regulate ergonomic hazards in the workplace. The OSH Act thus does not prevent OSHA from including WRP in this standard merely because employees may be exposed to some ergonomic risk factors outside of work.

OSHA also does not agree that it may not include a WRP provision in a standard that is not promulgated pursuant to section 6(b)(5) of the OSH Act. Ex. 500–223, pp. 81–82. OSHA’s authority to include WRP in this standard derives from numerous provisions of the OSH Act, including sections 3(8), 6(b)(7), and 8(g)(2). These provisions give OSHA broad authority to implement measures reasonably necessary or appropriate to effectuate its statutory goal. OSHA’s authority to include WRP is not granted by section 6(b)(5) of the OSH Act or limited to standards promulgated pursuant to section 6(b)(5). Section 6(b)(5) applies to toxic materials and harmful physical agents and requires OSHA to “set the standard which most adequately assures, to the extent feasible * * * that no employee will suffer material impairment of health or functional capacity even if such employee has regular exposure to the hazard * * * for the period of his working life.” 29 U.S.C. 655(b)(5).

To be sure, OSHA has previously required WRP only in section 6(b)(5) standards. But the reason for that inclusion was record evidence that absent some wage protection employees would not participate in the medical surveillance or medical management programs of those standards. Non-section 6(b)(5) standards, on the other hand, do not include medical

surveillance provisions. OSHA has thus found it unnecessary to include WRP in those standards. OSHA’s past practice does not indicate that WRP can only be included in section 6(b)(5) standards; rather, it demonstrates that WRP can only be included in standards based upon findings that it is reasonably necessary or appropriate. OSHA has made those findings here.

Some commenters argued that Congress’ establishment of the National Commission on State Workmen’s Compensation Laws (National Commission) in the OSH Act to examine the effectiveness of state workers’ compensation systems suggests that Congress did not want to “federalize” workers’ compensation through a provision such as WRP. Ex. 30–3811, pp. 15–16. But Congress established the National Commission to provide an “objective evaluation of State work[ers]’ compensation laws in order to determine if such laws provide an adequate, prompt, and equitable system of compensation for injury or death arising out of or in the course of employment.” See 29 U.S.C. 676. In *Lead*, the D.C. Circuit examined whether Congress’s establishment of the National Commission demonstrated a legislative hostility to WRP. The court held that it did not. *Lead*, 647 F.2d at 1235 n.70. Of particular importance to the court was that WRP did not “federalize” workers’ compensation, rather it left the state workers’ compensation scheme wholly intact as a legal matter. *Id.* Thus, even if Congress evinced a hostility to the “federalization” of workers’ compensation through the OSH Act, the WRP provision at issue did not effect such “federalization.” *Id.*

Similarly and as explained in more detail below, WRP in this standard will not affect or supersede workers’ compensation systems; nor will WRP have a great practical effect on workers’ compensation. WRP is not designed to “compensate” workers who suffer from MSDs, to provide them with medical treatment for their work-related injuries or illnesses, or to determine the extent of their disability, all functions reserved to workers’ compensation; WRP is designed to encourage employees to report MSDs early and participate in MSD Management. In that sense, WRP serves as an administrative control, working to prevent injuries from becoming disabling and compensable.

NCE *et al.* also claimed to find additional evidence that Congress did not intend OSHA to have authority to require WRP in Congress’ refusal to include the “Daniels Amendment” in the OSH Act. Ex. 500–197, pp. III–73–

80. The Daniels Amendment would have required the Secretary of Health, Education, and Welfare to publish an annual list "of all known or potentially toxic substances and the concentrations at which such toxicity is known to occur," and to determine whether the levels of toxic substances present in individual workplaces posed a hazard to employees. It then would have prohibited employers from requiring employees to work in areas that had been determined to be hazardous without certain listed protections, "unless such exposed employee may absent himself from such risk or harm for the period necessary to avoid such danger without loss of regular compensation for such period." See Lead, 647 F.2d at 1233.

In the first place, it is difficult to read significant congressional intent not to grant regulatory authority into the failure of the Congress to enact a provision in the Agency's enabling Act. See *U.S. Ex. Rel. Stinson v. Prudential Insurance*, 944 F.2d 1149, 1157 (3d. Cir. 1991); see generally 2A Sutherland Statutory Construction § 48.18. This is especially true when the provision is not identical to the regulation requirement at issue. And the Daniels Amendment has little in common with OSHA's WRP provisions. It would have provided the grounds for removal from work based upon informal action by the Secretary of Health, Education, and Welfare. WRP, however, results from OSHA rulemaking involving notice and comment procedures. See Lead, 647 F.2d at 1233. Further, WRP depends in large measure on a health care professional's determination that removal is appropriate, and the standard also contains a dispute resolution procedure to address disagreements among health care professionals. See Paragraph (s). More important, the Daniels Amendment would have allowed an employee to make an individual judgment that the grounds for removal applied; employees could thus effectively remove themselves from the workplace. Lead, 647 F.2d at 1233. Under WRP, however, removal occurs when certain criteria are met, and may even occur against an employee's will. See Paragraphs (e), (f), and (r). Because of these differences, the D.C. Circuit held in Lead that the Daniels Amendment "would probably invite controversy and abuse in a way that [WRP] would not, so the reasons for which Congress rejected the [Daniels Amendment] may well not apply to [WRP]." Lead, 647 F.2d at 1233–34.

Even so, NCE *et al.* argued that the Lead decision was incorrect because it misinterpreted a 1980 Supreme Court

decision, *Whirlpool Corp. v. Marshall*, 445 U.S. 1 (1980). Ex. 500–197. OSHA is not convinced by this argument. The D.C. Circuit did not rely on the Whirlpool decision in holding that the Daniels Amendment violated congressional intent. Rather, the D.C. Circuit examined independently the language and history of the Daniels Amendment in reaching its conclusions. See Lead, 647 F.2d 1233–34 n.69. Although the court discussed Whirlpool, which it found consistent with its interpretation of the Daniels Amendment, its analysis did not rely on the Whirlpool decision. Id. Furthermore, the D.C. Circuit did not misread Whirlpool by noting the context of the Supreme Court's holding—that the Daniels Amendment would have allowed employees to unilaterally leave work at full pay under certain circumstances. Id.

Commenters also argued that WRP is barred by the Executive Order on Federalism (Executive Order), specifically sections 2(i) and 3(b). Ex. 30–3811, pp. 16–18. Section 2(i) of the Executive Order states that "[t]he national government should be deferential to the States when taking action that affects the policymaking discretion of the States and should act only with the greatest caution where State or local governments have identified uncertainties regarding the constitutional or statutory authority of the national government." Section 3(b) provides that "[n]ational action limiting policymaking discretion of the States shall be taken only where there is constitutional and statutory authority for the action and the national activity is appropriate in light of the presence of a problem of national significance. Where there are significant uncertainties as to whether national action is authorized or appropriate, agencies shall consult with appropriate State and local officials to determine whether Federal objectives can be attained by other means." 64 FR 43255 (Aug. 10, 1999). The Executive Order sets forth fundamental federalism principles, federalism policymaking criteria, and provides for consultation by federal agencies with state or local governments when policies are being formulated which potentially affects them. [Note: Section XIII of this preamble describes the Executive Order in more detail and discusses OSHA's interactions with State and local governments in the development of this rule. It also contains a certification by the Assistant Secretary that OSHA has complied with the applicable requirements of the Executive Order.]

WRP is not "barred" by the Executive Order. First, there is no "uncertainty" with respect to OSHA's authority to include WRP in this standard. As explained above, the OSH Act gives OSHA broad authority to include WRP where necessary or appropriate to effectuate its statutory mandate. Indeed, the rulemaking record requires OSHA to include WRP in this standard. Second, OSHA has found that "national action" is necessary to deal with the significant risk of MSDs in the workplace. As shown in great detail in the Risk Assessment and Significance of Risk sections, the problem of MSDs is national in scope. See Sections VI and VII below. Under these circumstances, a national standard to prevent MSDs is appropriate under the OSH Act and entirely consistent with the federalism policies set forth in the Executive Order.

Third and finally, OSHA consulted with stakeholders, including representatives from State and local governments, on WRP (and the standard in general). Numerous representatives from State and local governments testified at the hearing. See *e.g.*, 502–476 (Testimony of The Honorable Eliot Spitzer, New York State Attorney General; Testimony of National League of Cities). These same commenters and many others also submitted written comments on the proposed rule, including comments on WRP. See Section XIII for a larger discussion of the participation of State and local governments in the rulemaking proceedings. OSHA considered these comments in developing the final standard. OSHA also specifically sought comment from the public (including State and local governments) on whether the objectives of WRP could be attained by other non-regulatory means. 64 FR 65858 (Nov. 23, 1999). OSHA considered the various alternatives suggested; OSHA ultimately concluded, however, that those alternatives would be unable to accomplish the objectives of WRP (see Chapter VIII, Non-Regulatory Alternatives, of the Final Economic Analysis).

Finally, representatives of the insurance industry also argued that the McCarran-Ferguson Act prevents OSHA from including WRP in this standard. Ex. 30–3811, pp. 38–39. The McCarran-Ferguson Act states, in pertinent part: "No Act of Congress shall be construed to invalidate, impair, or supersede any law enacted by any State for the purpose of regulating the business of insurance, or which imposes a fee or tax upon such business, unless such Act specifically relates to the business of insurance." 15 U.S.C. § 1012(b). Congress passed the McCarran-Ferguson Act in reaction to

the Supreme Court's decision in *United States v. South-Eastern Underwriters Assn. (South-Eastern)*, 322 U.S. 533 (1944). In *South-Eastern*, the Supreme Court held that "insurance transactions were subject to federal regulation under the Commerce Clause, and that the antitrust laws, in particular, were applicable to them." *SEC v. National Securities, Inc.*, 393 U.S. 453, 457 (1969). The McCarran-Ferguson Act was an attempt to "turn back the clock [to the time before the Supreme Court decision], to assure that the activities of insurance companies in dealing with their policyholders would remain subject to state regulation." *Id.* at 458–59.

The McCarran-Ferguson Act does not prevent OSHA from acting pursuant to its own authority under the OSH Act. OSHA derives its authority to issue standards from the OSH Act; OSHA is authorized to implement standards "reasonably necessary or appropriate" to accomplish its statutory goal. As explained in detail above, OSHA is operating well within its statutory authority by including WRP in this standard. The McCarran-Ferguson Act has no bearing on that authority. See *Women in City Government United et al. v. City of New York*, 515 F. Supp. 295, 303 (S.D.N.Y. 1981) (The McCarran-Ferguson Act was not intended to be applied "indiscriminately to subsequent federal legislation * * * solely because legislation fails specifically to state that it is applicable in circumstances where insurance interests are implicated.").

And, as explained more fully below in the discussion of section 4(b)(4) of the OSH Act, WRP will not invalidate, impair, or supersede any workers' compensation law or system. The operation of workers' compensation laws will remain unchanged after the standard is promulgated. WRP also will not supersede workers' compensation systems by encouraging or discouraging claims in those systems. The McCarran Ferguson Act does not prevent OSHA from issuing WRP.

2. Section 4(b)(4) Does Not Prohibit OSHA From Including WRP and Other Provisions in This Standard.

(a). *Section 4(b)(4) does not prohibit OSHA from including WRP in this standard.*

The most persistent criticism of WRP is that Section 4(b)(4) of the OSH Act forbids OSHA from imposing any type of wage continuation requirement. Section 4(b)(4) provides:

"Nothing in this Act shall be construed to supersede or in any manner affect any workmen's compensation law or to enlarge or diminish or affect in any other manner the

common law or statutory rights, duties, or liabilities of employers and employees under any law with respect to injuries, diseases, or death of employees arising out of, or in the course of, employment." 29 U.S.C. 653(b)(4).

In the preamble to the proposed rule, OSHA explained in detail how the proposed WRP provision did not violate section 4(b)(4) of the OSH Act. Section 4(b)(4) of the OSH Act was intended to bar "workers from asserting a private cause of action against employers under OSHA standards," and to prevent any party in an employee's claim under a workers' compensation law or other State law from asserting that an OSHA regulation or the OSH Act itself preempts any element of State law. *Lead*, 647 F.2d at 1235–36. In short, section 4(b)(4) prohibits OSHA from legally preempting state workers' compensation law. *Id.* Thus, even if WRP were to have a "great practical effect" on state workers' compensation systems, it would not violate section 4(b)(4) so long as it left the state scheme "wholly intact as a legal matter." *Id.* at 1236 (emphasis in original).

The rulemaking record confirms that WRP in this standard will not change the legal scheme of state workers' compensation systems. Professor Emily Spieler, who is one of the nation's leading scholars on state workers' compensation systems and their interaction with other federal and state laws, submitted written comments and testified at great length on the effects of WRP on state workers' compensation systems. As noted above, Professor Spieler served as the Commissioner of the West Virginia Workers' Compensation Fund, responsible for setting insurance premium rates, premium collection from employers, initial claims review, and adjudication. She has lectured extensively on employment law and public health issues, and has authored and/or co-authored numerous articles on workers' compensation, see Ex. 37–14, Curriculum Vitae of Emily A. Spieler, including:

- Spieler E. Is Workers' Compensation the Only Legal Remedy for Workers Who Are Injured at Work? In *Occupational Health: Recognition and Prevention of Work-Related Disease and Injury* (4th ed. (Lippincott, Williams & Wilkins, Levy BS, Wegman, DW, eds., 2000).

- Spieler E. Dispute Resolution in Workers' Compensation Managed Care. Report prepared for Robert Wood Johnson funded project, A Guide to Evaluating the Effectiveness of Managed Care Programs in Workers' Compensation.

- Spieler E. Perpetuating Risk? Workers' Compensation and the Persistence of Occupational Injuries, 31 *Houston Law Rev.* 119–264 (1994).

- Spieler E. Injured Workers, Workers' Compensation, and Work, 95 *W.Va. Law Rev.* 333–467 (1992–93).

Professor Spieler stated that WRP would not alter or affect the legal scheme of state workers' compensation systems; nor would it "supersede" those systems. Specifically, she stated:

(1) WRP would in no way change the eligibility criteria for obtaining workers' compensation benefits in the state workers' compensation systems. In fact, she noted that the eligibility criteria for WRP and the eligibility criteria for state workers' compensation were substantially different.

(2) WRP would in no way change the filing requirements for state workers' compensation claims. Thus, an employee report of an MSD under the standard would not constitute the filing of a workers' compensation claim. Every state has its own procedures for filing workers' compensation claims; these would remain unchanged by WRP.

(3) WRP would in no way change the benefit payments paid through workers' compensation systems. Workers' compensation benefits are set by state statute; WRP would not affect the payment of those benefits.

(4) WRP would in no way change the review and adjudication process governing workers' compensation claims. "Because of the no-fault principle of the workers' compensation program[], the level of hazard in the workplace and the general treatment of the injured worker is irrelevant to workers' compensation proceedings. In fact, OSHA rules have largely remained outside of workers' compensation discussions and proof. The existence of an ergonomics standard will not change that."

(5) WRP would not cause an increase in workers' compensation premiums or change the calculation of workers' compensation premium rates.

Id. at 15–18; Ex. 500–140, pp. 1–2.

In summary, Professor Spieler stated that "the proposed ergonomics standard [including WRP would] not interfere with, undermine, or federalize workers' compensation systems or illegally or inappropriately undermine the exclusivity doctrine." *Id.* at 18. See also Ex. 500–26 (Lynn Marie-Crider).

The Attorney General of New York State, Eliot Spitzer, echoed these same points with respect to the New York State workers' compensation system. General Spitzer stated that WRP would leave New York's workers' compensation system "wholly intact as a legal matter." Ex. DC 75, p. 3. Specifically, WRP would not affect workers' compensation eligibility criteria in New York. *Id.* at 5. Neither would employers in New York State be effectively admitting liability under the state system by making certain

determinations required by the standard, "such as whether an employee has a covered MSD, whether that employee should be referred to a healthcare provider, or whether a WRP payment should be made." *Id.* at 6. General Spitzer also stated that WRP would not affect state workers' compensation laws by obstructing the states' return-to-work objectives. On the contrary, he stated that "by encouraging early diagnosis and treatment of covered injuries * * * WRP would promote, not obstruct, rehabilitation and early return to work." *Id.* at 9. Finally, General Spitzer stated that WRP would not interfere with the exclusivity doctrine of workers' compensation: "In my view there is no interference with these provisions because WRP is not providing remedies for injuries. Instead, by reducing the financial risks associated with reporting injuries, the income maintenance provisions of WRP would promote early reporting and treatment of the covered injuries and prompt adjustments in workplace conditions for similarly situated workers." *Id.* at 9-10. In making these observations, General Spitzer noted that similar WRP provisions in other OSHA standards have not interfered with the functioning of the New York State workers' compensation system. See Tr. 3385-3407.

Eighteen Attorneys General submitted post-hearing letters agreeing with the testimony of General Spitzer that WRP would leave state workers' compensation schemes wholly intact as a legal matter and not "affect" or "supersede" state systems in violation of section 4(b)(4). See Ex. 500-48.

There is also no record evidence to support the assertion that WRP will have a significant practical effect on state workers' compensation systems. Injured workers will still have numerous incentives to file for workers' compensation. First, neither WRP nor other provisions of the standard require employers to pay for or provide medical treatment. If a worker is injured on the job and requires medical treatment, that worker will need to file for workers' compensation. As noted by Professor Spieler, and consistent with the injury data described in Section VII, a large proportion of MSD claims in workers' compensation systems are for medical benefits only. Ex. 37-14, p. 16. Those individuals who are seeking only medical treatment through workers' compensation will not be affected by WRP. Second, WRP only requires employers to maintain 90% of a removed employee's gross earnings and benefits for up to 90 days. See Paragraph (r)(3). If a worker requires benefits for

longer than that period of time, the worker will need to file for workers' compensation. Currently, 80% of workers' compensation indemnity benefits are for permanent disability. *Id.* Ex. 37-14, p. 16. Many of the workers receiving permanent disability benefits would not be eligible for WRP.

At the same time, OSHA does not expect that the number of workers' compensation claims will rise dramatically with WRP. As Professor Spieler stated in her written comments, "the existence of the WRP provision is very unlikely to discourage—or encourage—the filing of workers' compensation claims." *Id.* This has been confirmed by earlier WRP provisions in other health standards where there has been no dramatic observable increase or decrease in the short run in the number of workers' compensation claims filed for conditions covered by WRP and state workers' compensation systems. See generally *id.* at 18; Ex. 500-218, p. 128.

For all of these reasons, WRP does not violate section 4(b)(4) of the OSH Act. Some commenters argued the opposite, however. Some argued that the language of section 4(b)(4) is unambiguous on its face: it precludes "any interference [with State workers' compensation systems], whether of a legal, economic, public policy, practical or other kind." Ex. 30-3811, p. 14. These representatives also argued that the Lead decision was incorrectly decided; courts today, they argued, would interpret section 4(b)(4) differently. *Id.*; see also Ex. 32-22-1, pp. 34-35; Ex. 30-4467, p. 17. In addition, some commenters argued that numerous factual differences exist between WRP in this standard and WRP in the lead standard that make OSHA's reliance on the Lead decision misplaced. See Ex. 500-223, pp. 81-82; Ex. 30-4467, pp. 17-22. One important difference, according to these commenters, was that few employees under the lead standard would be eligible for both workers' compensation and WRP, whereas many employees under this standard will be eligible for both workers' compensation and WRP. See Ex. 500-223, pp. 84-85.

OSHA does not believe that section 4(b)(4) can be interpreted to prohibit OSHA from having any impact, either directly or indirectly, on state workers' compensation systems. Such an interpretation would prevent OSHA from enacting any occupational safety and health standard, for, as the court noted in Lead, "any health standard that reduces the number of workers who become disabled will of course 'affect' and even 'supersede' worker's compensation by ensuring that those workers never seek or obtain work[ers']

compensation benefits." Lead, 647 F.2d at 1235. Congress obviously did not intend section 4(b)(4) to so limit OSHA's standard-setting authority. Instead, section 4(b)(4) is intended to prevent OSHA from affecting or superseding any state workers' compensation law; as the court noted in Lead, it is intended to "bar[] workers from asserting a private cause of action against employers under OSHA standards," and to prevent a worker or employer from asserting in a state proceeding "that any OSHA regulation or the OSH Act itself preempts any element of state law." *Id.* at 1236. OSHA has shown that WRP does neither.

Furthermore, there are not "numerous" factual differences between WRP in the lead standard and WRP in this standard. In fact, as explained above, there are a substantial number of similarities. To be sure, there may be a greater number of workers who qualify for WRP and state workers' compensation benefits under this standard than under the lead standard. Like the lead standard, however, these numbers will decline after the standard is in place. OSHA predicts that by encouraging early reporting, employees will report signs and symptoms of MSDs before they become disabling and compensable under state workers' compensation systems. Thus, the only "effect" of WRP will be that fewer employees will become disabled under state workers' compensation systems. As the court correctly noted in Lead, this is precisely the effect OSHA standards are intended to have. Lead, 647 F.2d at 1235.

Several commenters argued that WRP improperly "supersedes" the exclusive remedy provisions of state workers' compensation laws, essentially giving employees additional "litigation rights" before the Occupational Safety and Health Review Commission and the federal courts. Ex. 30-3811, pp. 19-22; see also Ex. 32-22-1, pp. 11-12.

Workers' compensation systems were initially designed to provide the sole remedy for injuries and illnesses covered by the systems. Of primary importance was that employees would no longer be permitted to assert a negligence claim against employers for injuries arising out of and in the course of employment. Ex. 37-14, p. 12 (Spieler). "Notably, workers' compensation continues to bar alternative tort-based legal actions against employers that involve negligently caused physical injuries arising out of and in the course of employment." *Id.* This has been termed the "exclusivity" doctrine.

As explained by Professor Spieler, however, a number of federal and state laws have expanded the rights of injured workers.

"[A] wide variety of legal rights have developed since workers' compensation laws were initially passed. These include federal employment-based laws (such as OSHA, the Americans with Disabilities Act, the Family Medical Leave Act) that provide additional rights to people with work-related health conditions; state employment-based laws (such as anti-retaliation rights under the public policy exception to the at-will employment doctrine and disability discrimination laws); state common law torts that provide remedies for employer actions other than the specific negligence that caused the injury (such as fraud); and, in a growing minority of states, some expansion of the definition of intentional actions that remove injuries from the state exclusivity provisions. All of these legal developments represent an expansion of workers' rights when they are injured at work. *Id.*

Thus, while the "exclusivity" doctrine still exists in workers' compensation, it exists within the broader framework of other Federal and State rights granted workers by Congress and state legislatures. These rights have not been held to violate or contradict in any way the exclusivity doctrine of state workers' compensation systems; "[t]hey do not change the exclusive nature of workers' compensation for the specific purpose of shielding employers from common law tort actions based on negligence." *Id.*

Neither does WRP. WRP provides employees some wage protection in order to encourage them to report signs and symptoms of MSDs early. "WRP does not create any common law tort remedy for [an] occupational injury." Ex. 500-140, p. 2 (Spieler). WRP does not give employees any additional procedural or substantive legal rights; WRP places a requirement on employers to provide some wage protection to employees when they are placed on temporary work restrictions. WRP does not give employees a right to file a cause of action against an employer for WRP benefits; WRP does not give an employee the right to file a cause of action against an employer for failure to pay WRP. To be sure, the OSH Act confers some procedural rights upon employees and/or their designated representatives to participate in OSHA enforcement proceedings; however, these rights were given employees by Congress and are very limited. Indeed, employees may only question the Secretary of Labor's exercise of prosecutorial discretion in an enforcement case before the Occupational Safety and Health Review Commission on the issue of abatement

dates in a citation. 29 U.S.C. 659. WRP does not violate the exclusivity doctrine of state workers' compensation systems.

WRP also does not conflict with, or frustrate the return-to-work policies of state workers' compensation systems. Ex. 30-3811, pp. 22-24; Ex. 32-22-1, pp. 16-18. Most state workers' compensation systems provide temporary total disability (TTD) benefits to injured workers in the amount of 66 2/3rds of their average weekly wage. These payments are not taxed. Dr. Leslie Boden testified at the informal public hearing that OSHA's proposed WRP provision was approximately equal to the amount of TTD benefits provided in state workers' compensation systems. See Ex. DC-47. The vast majority of workers who receive WRP because they are removed entirely from work, therefore, will receive approximately the same amount of money with WRP as they would under most state workers' compensation systems. Because WRP and TTD benefits are approximately equal, WRP is no more repugnant to the "return-to-work" philosophy than are state workers' compensation systems.

Even so, many injured workers currently receive supplemental payments above and beyond workers' compensation. Some states specifically authorize such a practice. According to Lynn-Marie Crider, a former member of the Oregon Workers' Compensation Board and an expert in workers' compensation:

"[T]here is nothing in any workers' compensation system with which I am familiar that forbids workers from receiving greater wage replacement payments than are provided for by the workers' compensation system. Workers may receive supplementary payments from the employer by tapping sick leave benefits, under a disability insurance plan, and so forth. These additional payments are specifically authorized by Oregon law. ORS 656.118. So, at least in this state, it would be impossible to argue * * * that any additional payments that a worker might receive under the WRP provisions of the proposed rule violate an expectation that a worker will receive no more than the maximum benefit amount established for temporary disability compensation." Ex. 500-26, p. 4.

OSHA is unaware of any commenter who has argued that these supplemental benefits are repugnant to the "return-to-work" philosophy of workers' compensation.

Furthermore, current data indicates that 82% of workers with MSDs are returned productively to work by HCPs and only 3% are removed entirely from the workplace. See Ex. 500-118. By encouraging employees to report signs or symptoms of MSDs early, OSHA believes that even fewer workers will

need to be removed entirely from work. In this respect, this standard (including WRP) actually promotes the "return-to-work" philosophy.

Finally, the record does not show that "return-to-work" is a basic philosophy of workers' compensation. While many representatives of the insurance industry aggressively argued that it is, Professor Spieler had a contrary observation:

"[I]t is important to note that it is simply incorrect to say that 'return-to-work' is one of the 'foundational concepts of workers' compensation law.' Until the last 25 years, there was absolutely no evidence that return-to-work was a basic component of the workers' compensation world. Workers who collected benefits under the workers' compensation systems had no right to return to work; employers had no obligation to return them to work; and in many cases workers who collected benefits were simply terminated from employment. Recent judicial and legislative developments, combined with an expanded understanding that aggressive return-to-work efforts can increase productivity and decrease workers' compensation costs, has led to a change in the way that this issue is discussed in workers' compensation circles." Ex. 500-140, p. 3 (internal citations omitted).

Commenters also argued that WRP "supersedes" state workers' compensation systems by eliminating injury requirements and lessening causation requirements. See Ex. 30-3811, pp. 24-28; Ex. 32-22-1, pp. 12-13.

WRP will not directly change, alter, affect, or eliminate the injury requirements or causation requirements of any state workers' compensation law. States will continue to operate their systems in the manner they deem appropriate. WRP will also not indirectly coerce states to change or alter their injury and causation requirements. As stated by Professor Spieler, "[t]here is no logic to the claim that WRP would force complete revision of state workers' compensation laws. Workers' compensation [will] continue to process claims exactly as they have always done." Ex. 500-140, p. 3. Furthermore, the fact that WRP imposes (or does not impose) certain requirements on employers that are different from workers' compensation in certain ways does not mean that WRP "supersedes" such systems. In the words of Professor Spieler, these differences "underscore the fact that WRP leaves workers' compensation unaffected." *Id.*

For the same reasons, OSHA also disagrees with those commenters who argued that WRP would "supersede" state standards in workers' compensation for determining the

amount of compensation. See Ex. 30-3811, p. 29-33. WRP will not change, alter, or eliminate those state standards. The mere fact that WRP has a "different" benefit level and does not contain maximum or minimum levels does not mean that it "supersedes" or "affects" state workers' compensation systems; as explained above, it means just the opposite.

Some commenters argued that WRP would drastically increase the number of state workers' compensation claims, thus "affecting" state systems in violation of section 4(b)(4). See *e.g.*, Tr. 9786 (Nelson). Other commenters, however, argued just the opposite: because WRP provides "greater benefits" to injured workers, workers will not file workers' compensation claims, thus "affecting" state workers' compensation in violation of section 4(b)(4). See *e.g.*, Ex. 30-4467, pp. 19-20.

OSHA has addressed this issue in great detail above. OSHA does not believe that claims for workers' compensation will increase dramatically after the standard is promulgated; past experience with other standards that include WRP supports this. See Ex. DC-75, p. 11. On the other hand, OSHA does not believe that injured or disabled workers will stop filing valid workers' compensation claims. See *id.* at 11-12. In order to receive medical benefits or benefits after 90 days, employees will need to file for workers' compensation. As stated by Professor Spieler, "the existence of the WRP provision is very unlikely to discourage—or encourage—the filing of workers' compensation claims." Ex. 37-14, p. 16.

Some commenters argued that WRP "affects" or "supersedes" state workers' compensation systems by providing for double recovery for injured workers. See *e.g.*, Ex. 32-22-1, p. 19-20. These commenters specifically argued that state systems do not permit the attachment of state workers' compensation payments; thus employers would have no mechanism for retrieving from employees payments made pursuant to WRP. *Id.*

As explained more fully below, WRP does not provide for double recovery for injured workers. WRP includes a provision which allows employers to reduce their WRP payments when an employee receives payments from workers' compensation. It is immaterial in this respect whether states permit or prohibit attachment of workers' compensation payments. WRP does not speak to the issue of attachment of these payments. Rather, WRP permits employers to reduce their WRP payments by the amount received by the employee from other sources. This

prevents an employee from receiving "double recovery." See also Discussion of offset provision below.

Some commenters argued that WRP violates section 4(b)(4) because it creates a conflict of interest between employers and insurance carriers. See *e.g.*, Tr. 6472-73 (McGowen).

OSHA is not convinced that WRP will create a conflict of interest between insurance companies and employers. Both employers and their insurance carriers have a common interest: reducing injuries and illnesses at work. Reducing the incidence of MSDs will reduce WRP payments as well as workers' compensation costs. OSHA believes that both employers and insurance carriers currently share this goal and will continue to share this goal after the standard is promulgated.

Even if the standard did introduce some conflict between insurance carriers and employers with respect to any particular workers' compensation claim, however, OSHA does not believe this violates section 4(b)(4). Once again, section 4(b)(4) prohibits OSHA from preempting, in whole or in part, the legal scheme of state workers' compensation systems; any potential conflict of interest does not directly or indirectly affect the legal scheme of any state system.

Two commenters suggested WRP violates section 4(b)(4) because it will (1) Result in "blatant forum shopping by employees and their representatives," (2) serve as "res judicata" or "collateral estoppel" in a later state workers' compensation proceeding, (3) create incentives for state administrators to encourage employees to "file" for WRP and not file a state workers' compensation claim, and (4) create disincentives for states to cover MSDs. See Exs. 32-300-1, pp. 12-13; 30-3853, pp. 27-28.

First, OSHA does not understand how WRP, a uniform federal requirement, would encourage "blatant forum shopping" by employees. As shown, state requirements for filing of workers' compensation claims will remain unchanged after the standard is promulgated. WRP would not give employees any additional rights to file for workers' compensation claims in other forums or allow employees to choose in which forums to file workers' compensation claims.

Second, WRP will not serve as "res judicata" or "collateral estoppel," or otherwise be improperly used in any state workers' compensation proceeding. The Attorney General of New York State addressed this issue in his testimony at the informal public hearing:

"[E]mployers would not effectively admit liability under state workers' compensation laws by making certain determinations required by the WRP such as whether an employee has a covered MSD, whether that employee should be referred to a health care provider, or whether a WRP payment should be made. None of these determinations would constitute an admission of liability under New York's Workers' Compensation scheme." Ex. DC75, pp. 6-7; see also Ex. 37-14, p. 16.

Indeed, Professor Spieler stated in her written testimony that in the past OSHA rules "have largely remained outside of workers' compensation discussions and proof." Ex. 37-14, p. 16. This, of course, makes sense given that the no-fault principle of workers' compensation makes "the level of the hazard in the workplace and the general treatment of the injured worker" irrelevant to the state proceeding. *Id.*

Third, OSHA does not anticipate that inclusion of WRP in the standard will provide an incentive for state administrators to encourage workers to "file" for WRP instead of for workers' compensation benefits. It is important to reiterate that workers do not file for WRP, as they do under state workers' compensation systems. Employers (and in certain circumstances HCPs) make the determination of whether work restrictions are necessary and thus whether WRP is appropriate; this determination is not made through an employee "filing." State administrators thus could not encourage workers to file for WRP. Furthermore, employees have an independent incentive to file for workers' compensation, an incentive unaffected by the actions of state administrators—WRP does not pay for medical treatment, or for any benefits after 90 days. And finally, these commenters did not explain how state administrators could actually encourage individual workers to file for WRP. While it is true that in most state systems workers' compensation administrators become involved at certain stages of claims proceedings, the determination of whether to initiate a workers' compensation claim is typically made at the plant level, where the injury occurred.

Fourth, WRP will not discourage—or encourage for that matter—states from covering MSDs. As Professor Spieler stated, "[t]here is no logic to the claim that WRP would force complete revision of state workers' compensation laws." Ex. 500-140, p.3. The decision by a particular state system as to whether a certain injury or illness should be covered is a decision made appropriately by state legislatures after consideration of a number of factors.

Inclusion of WRP in this standard will not independently affect this decisionmaking process.

Some commenters argued that the standard violates section 4(b)(4) by denying employees and employers due process in making a claim for WRP under the standard. See *e.g.*, Ex. 32-22-1, pp. 14-16.

Once again, employees do not make a "claim" for WRP under this standard. In this respect, WRP is fundamentally different from workers' compensation. Under this standard, employers make the determination as to whether work restrictions are appropriate; if they are, employers must provide WRP. If an employer is cited for failing to provide WRP, the OSH Act provides an opportunity for the employer to contest the citation. Employers are thus not denied due process with respect to WRP.

That said, OSHA has included a dispute resolution mechanism in the final standard that was not included in the proposed rule in order to address concerns raised both by employer and employee groups. See Paragraph (s). Many commenters from both labor and industry asked OSHA to include some dispute resolution mechanism in the standard so that employers and employees could more efficiently handle disputes related to work restrictions. See *e.g.*, Exs. 500-218, p. 124; 32-300-1, p. 30; Tr. 7654. OSHA has responded to these comments and included such a mechanism in the final standard. See Discussion below. OSHA notes, however, that it is not aware of any employee group that alleged that the proposed standard violated constitutional due process by failing to have a dispute resolution mechanism in the proposed standard for appealing various employer determinations.

Some commenters argued that the standard violates section 4(b)(4) because it does not permit employers to stop paying WRP if it is determined that a worker is engaging in practices that delay or prevent his/her recovery. See *e.g.*, Ex. 32-22-1, p. 26.

OSHA believes that these commenters misunderstood the proposed rule; OSHA has attempted in this rule to clarify the discussion of MSD Management with respect to employer obligations to provide WRP. This standard expressly provides that employers may condition the payment of WRP on employee participation in MSD management. This includes the evaluation and follow-up of employees. Thus, an employer may stop WRP payments if an employee is not participating in the evaluation and

follow-up provided for by MSD Management. See Paragraph (r)(4).

Commenters argued in general that because WRP is different from state workers' compensation systems (*i.e.*, different standards, different burdens of proof, different compensation rates, different dates, the presence of a waiting period, etc.), it creates a parallel benefits scheme in violation of section 4(b)(4). See Ex. 32-22-1, pp. 12-18; Tr. 6466 (McGowen).

As OSHA explained above, the fact that differences exist between WRP and state workers' compensation systems demonstrates that WRP does not violate section 4(b)(4). WRP is a federal requirement separate from the requirements and procedures of state workers' compensation systems. It is not intended to replace workers' compensation. It is designed instead to accomplish very different purposes. Workers' compensation is designed to compensate workers after an injury has occurred. WRP is designed to encourage employees to report signs or symptoms of MSDs early, before they become severe and disabling, and to cooperate with the standard's MSD management provisions. As such, it is not surprising that WRP and state workers' compensation systems have different schemes, etc. The fact that WRP operates differently from state workers' compensation systems does not mean that it "supersedes" or in any manner "affects" workers' compensation. In the words of Professor Emily Spieler:

"All of the differences * * * between WRP and workers' compensation underscore the fact that WRP leaves workers' compensation unaffected. This includes the different process of selection of the evaluating health care provider (HCP); the different role of the HCP; the different enforcement mechanisms; the different standards for evaluation of whether the MSD is covered; the differences in burdens of proof; and any differences in payment levels. The very fact that there will be inconsistent outcomes * * * suggests that WRP will not affect state workers' compensation programs." Ex. 500-140, p. 3.

See also Ex. 500-26, pp. 3-4.

One commenter, Robert Aurbach, General Counsel of the New Mexico Workers' Compensation Administration, in his capacity as a private citizen argued that WRP violates the second clause of section 4(b)(4) by (1) Providing different requirements for HCP choice, (2) eliminating waiting periods, (3) shifting the burden of proof, (4) requiring employers to "fix" problem jobs, (5) requiring payment for medical care, (6) creating conflicts of interest between employer and insurance carriers, (7) creating additional administrative burdens, and (8) being,

in general, overbroad. Ex. 32-22-1, pp. 27-31.

OSHA has addressed some of Mr. Aurbach's specific points above. WRP and other provisions of the standard do not require employers to pay for medical care, do not create conflicts of interest between employers and insurance carriers, and do not affect state workers' compensation waiting periods or burdens of proof. OSHA also does not believe that this standard is overbroad—OSHA has carefully tailored this standard to address exposure to ergonomic risk factors at levels shown to cause a significant risk of MSDs.

OSHA admits that the standard will place certain requirements upon employers to "fix" problem jobs, and keep some records of their ergonomics programs. Imposing these requirements on employers, however, does not violate section 4(b)(4). Virtually every OSHA standard includes some new requirements or places some administrative burdens on employers. This is not surprising given that the scheme of the statute, manifest in both the express language and the legislative history * * * [permits] OSHA to charge to employers the cost of any new means it devises to protect workers." Lead, 647 F.2d at 1230-31. For example, OSHA has required employers to install local exhaust ventilation in numerous health standards, produce and keep medical surveillance records of employees, provide hazard information to employees, etc. These requirements have never been held to violate section 4(b)(4). Indeed, if Mr. Aurbach's interpretation of the second clause of section 4(b)(4) were accurate, section 4(b)(4) would prevent OSHA from issuing any occupational safety and health standard. Under Mr. Aurbach's interpretation of the second clause of section 4(b)(4), if OSHA places any burdens (such as administrative burdens or the requirement to eliminate hazards in dangerous jobs) on employers not already required either by statute or the common law, section 4(b)(4) is violated. This interpretation is not plausible.

Contrary to Mr. Aurbach's assertion, the second clause of section 4(b)(4) must be read in conjunction with the first clause discussed in detail above. Section 4(b)(4) as a whole prevents OSHA from displacing or preempting the legal scheme of state workers' compensation. WRP will do no such thing. Section 4(b)(4) cannot be read to prevent OSHA from issuing safety and health standards.

(b). Section 4(b)(4) does not prohibit OSHA from including certain other provisions in this standard, as some commenters argued.

Several commenters argued that the confidentiality provision (Paragraph (p)(2)) of the standard "supersedes" state workers' compensation systems because such systems permit the employer to obtain any information from an HCP related to a workers' compensation claim. See *e.g.*, Ex. 32-22-1, pp. 25-26.

OSHA admits that the confidentiality provision in the proposal was not clear. OSHA has changed the language in the final rule to clarify it. As explained in more detail above, if a state workers' compensation system requires or even allows employers to obtain information related to a workers' compensation claim, the MSD management provisions would not prevent that information from being passed from the HCP to the employer in any manner. OSHA thus does not "supersede" or "affect" the different mechanisms provided by the states for the employer to obtain information from an HCP about a workers' compensation claim.

Commenters also argued that the standard "supersedes" state workers' compensation systems because (1) it allows the employer to select the initial HCP (whereas in numerous states the employee can select the initial HCP) and (2) it permits certain HCPs to participate in MSD management, even though those HCPs would not be qualified under state law to examine state workers' compensation claimants. See *e.g.*, Ex. 30-3811, pp. 34-37; Ex. 32-22-1, pp. 20-26.

This standard does not require employers to select the initial HCP. As explained above, this standard requires employers to make an HCP available to injured employees. Employers may choose to satisfy this requirement by operating within the selection practices of their state workers' compensation systems. (In fact, OSHA anticipates that most employers will do this.) Thus, if a state permits an employee to choose the initial HCP, that practice could continue under this standard.

Furthermore, the fact that OSHA is permitting certain HCPs to participate in MSD management who may not be permitted to examine workers' compensation claimants under state workers' compensation systems does not violate section 4(b)(4). OSHA has determined, based upon the rulemaking record, that certain "HCPs," operating within their scope of practice, can perform certain functions under MSD Management. This is an appropriate exercise of OSHA's authority and one that OSHA has exercised in other standards. See 29 CFR 1910.1052(b) (Methylene Chloride). OSHA is not changing the state requirements for

practice of HCPs under workers' compensation laws. Those requirements remain the same.

Commenters argued in general that the standard "supersedes" state workers' compensation systems because it establishes separate requirements for the provision of medical care with different cost structures, treatment guidelines, and regulatory burdens. See *e.g.*, Ex. 30-3811, pp. 34-38.

This standard does not require the employer to pay for or provide medical care and/or treatment. MSD management only requires employers to make an HCP available for evaluation and follow-up. The standard does not establish any cost structures or treatment guidelines, etc. Indeed, OSHA has expressly declined to include such requirements in the standard. See Discussion of MSD management above.

Finally, many commenters argued that WRP (and other provisions of the standard) improperly (1) creates a "most-favored injury" by providing compensation for MSDs at a higher rate than for other occupational injuries and illnesses, and (2) treats employers and employees in different states with different compensation systems differently. See *e.g.*, Tr. 6435-36 (Ewing); 6457 (Situkiendorf).

WRP does not result in workers with MSDs being compensated at a higher level than workers with other injuries and illnesses. As stated above, WRP payments are approximately equal to the amount of TTD payments received by workers through workers' compensation for all occupational injuries and illnesses. The standard also includes an offset provision that prevents an employee from receiving both WRP and workers' compensation. See Discussion of offset provision below. OSHA is thus not creating a separate class of injured workers and paying them at a higher rate than injured workers receive under workers' compensation.

OSHA has acted pursuant to its statutory authority to issue this standard to reduce the significant risk of employees developing MSDs from workplace exposure to ergonomic risk factors. The rulemaking record requires that OSHA include WRP to effectuate the purposes of this standard. WRP is designed to encourage employees to report MSDs early and to participate in MSD Management; it is not designed to, nor will it, compensate injured workers at a higher level than injured workers receive under state workers' compensation. Simply because OSHA has singled out certain injuries and illnesses for regulation, but not others, does not mean that OSHA has acted

improperly. OSHA's inclusion of WRP in other standards has never been ruled "improper" because it somehow created a "most-favored injury."

Furthermore, OSHA disputes that by creating a uniform federal requirement it is treating employers and employees differently in the various states. On the contrary, WRP applies equally to employers and employees in general industry. If, for example, two workers from different states must be removed from work due to the same MSD, they both will receive at least 90% of their gross earnings and benefits for up to 90 days. WRP creates no inequality.

To be sure, inequity currently exists in state workers' compensation systems. But as Professor Spieler stated in her written comments on the proposed rule, WRP will not introduce, solve, or affect that inequity:

"One final and important point: Some have argued that the proposed standard introduces inequity or inequality into the treatment of workers with occupationally-related MSDs. * * * But the proposed standard does not introduce inequity or inequality into the programs that provide protection for the affected workers. Serious inequities exist already. Currently, eligibility criteria for MSDs and payment levels in workers' compensation programs vary wildly from one state jurisdiction to another. So do protections under state-mandated temporary disability programs and under state disability rights laws. Some workers will receive medical treatment, permanent disability benefits, vocational training, and job placement; others, with equivalent MSDs will not. Irrespective of the promulgation of the proposed standard, these inequities will persist. They will persist precisely because state workers' compensation programs will be unaffected by the promulgation of the standard." Ex. 37-14, p. 19.

3. Section 4(b)(1) Does Not Prevent OSHA From Applying WRP to Federal Employees.

The United States Postal Service, as well as certain federal agencies, argued that section 4(b)(1) of the OSH Act prevents OSHA from applying WRP to federal employees because the Federal Employees Compensation Act (FECA) occupies the field with respect to compensation for work-related injuries. Ex. 35-106-1, pp. 14-21.

FECA provides compensation to federal employees injured while in the performance of their duties. 5 U.S.C. 8102. For totally disabled individuals, FECA pays 66 2/3% of their monthly pay. 5 U.S.C. 8105(a). In this respect, FECA is similar to state workers' compensation systems. FECA also has certain maximum and minimum levels for compensation, as well as a three day waiting period. Unlike various state systems, however, FECA contains a

continuation of pay mechanism (COP) for employees who suffer traumatic injuries. Under COP, employees may receive a continuation of their pay "without a break in time" for up to 45 days. 5 U.S.C. 8118. Furthermore, the FECA provides that "[a]n employee may use annual or sick leave to his credit at the time the disability begins." 5 U.S.C. 8118(c). Like state workers' compensation systems, FECA was enacted to provide federal employees with a quicker and more certain recovery for work-related injuries.

FECA does not preempt OSHA under section 4(b)(1) of the OSH Act from applying WRP to federal employees. Section 4(b)(1) of the OSH Act provides, in pertinent part:

Nothing in this Act shall apply to working conditions of employees with respect to which other Federal agencies * * * exercise statutory authority to prescribe or enforce standards or regulations affecting occupational safety or health. 29 U.S.C. 653(b)(1).

Section 4(b)(1) ousts OSHA from jurisdiction over working conditions over which another agency has exercised statutory authority. At the time the OSH Act was passed various federal agencies had statutory authority to prescribe and enforce standards and regulations affecting occupational safety and health. To avoid duplication of effort, Congress included section 4(b)(1) in the OSH Act. Thus, section 4(b)(1)'s broad purpose is to avoid duplicative regulatory burdens without impairing the OSH Act's primary goal of "assur[ing] so far as possible every working man and woman in the Nation safe and healthful working conditions." 29 U.S.C. 651(2)(b).

In order for an agency's action to preempt OSHA under section 4(b)(1), the agency must formally "exercise" its statutory authority to regulate "particular working conditions," or express its view that no action should occur. See *e.g.*, *Baltimore & Ohio R.R. v. OSHRC*, 548 F.2d 1052, 1053-55 (D.C. Cir. 1976); *Southern Pacific Transp. Co. v. Usery*, 539 F.2d 386, 390-92 (5th Cir. 1976), cert. denied, 434 U.S. 874 (1977). While courts differ slightly in their interpretation of what constitutes "working conditions" for purposes of section 4(b)(1), all approaches are based on the Supreme Court's definition of that term as limited to an employee's "surroundings" and the "hazards" incident to his work." *Southern Pacific Transp.*, 539 F.2d at 390 (quoting and citing *Corning Glass Works v. Brennan*, 417 U.S. 188, 202 (1974)). Thus, the courts examine whether the other agency's exercise of authority is directed to the "particular" or "identical"

working condition that causes the injury or illness that is addressed by the OSHA standard at issue. In *re* Inspection of Norfolk Dredging Co., 783 F.2d 1526, 1530-31 (11th Cir.), cert. denied, 479 U.S. 883 (1986).

In this case, FECA is not directed at all to the working conditions addressed by this standard. This standard requires employers to implement an ergonomics program to reduce exposures to ergonomic risk factors in the workplace. It adopts a comprehensive approach to reducing the significant risk of MSDs. One critical aspect of that approach is MSD management and WRP. By encouraging workers to report signs or symptoms of MSDs early (even before they become recordable or compensable), WRP prevents serious injuries from occurring. It also alerts employers to the presence of risk factors in a particular job.

FECA, on the other hand, does not attempt to regulate ergonomic hazards in the workplace to prevent MSDs from occurring in the first instance (*i.e.*, regulate "working conditions" that cause the injury or illness). In fact, it is not concerned with targeting and reducing occupational hazards at all. FECA is a statute that compensates workers after injury occurs. As such, it has a wholly separate purpose from WRP (and, indeed, this standard as a whole). To be sure, FECA may indirectly "affect" the occupational safety and health of workers by providing compensation after injury and encouraging temporary work restrictions; however, it is not targeted to the working conditions that cause MSDs. WRP is not preempted by FECA under section 4(b)(1) of the OSH Act.

C. Other Considerations

1. Non-monetary alternatives

Several commenters argued that non-monetary alternatives can be effective in increasing reporting of MSDs by employees and are preferable to WRP (Exs. 30-4467, p. 23; 32-300-1, p. 24). The EEI wrote:

EEI does not believe that OSHA has sufficiently proven that WRP is the only effective method to ensure accurate reporting. OSHA acknowledges that a properly designed incentive plan can be successful. OSHA reports that a number of stakeholders have said that employers use various non-monetary incentives to achieve a safer and more healthful workplace. Some of these incentives include recognition and nominal rewards (company caps, plaques) for reporting hazards or presenting ideas to fix problem jobs or reduce severity rates. These types of incentives can and do increase employee reporting.

Ex. 32-300-1, p. 24.

OSHA concludes that there are major drawbacks to relying upon non-monetary alternatives to increase employee reporting and participation in ergonomics programs. As EEI noted, one type of non-monetary alternative involves recognition and nominal rewards for reporting hazards or presenting useful ideas to improve safety. Although OSHA solicited comment on the issue, there was no consensus even among employers that this type of non-monetary incentives is an effective substitute for wage protection policies in motivating employees to report. While there is some evidence non-monetary inducements to reporting hazards can be effective as part of a well designed safety and health program, such programs may also involve full or partial wage protection, sick leave, or disability benefits if employees must lose time from work. While many employers have generous benefits policies that would enhance the effectiveness of non-monetary incentives, many do not (64 FR 65852). Absent persuasive evidence that non-monetary incentives for reporting hazards, standing alone, can achieve increased reporting, OSHA sees no basis to rely on them to the exclusion of WRP.

Another type of incentive plan rewards employees with prizes for reporting low numbers of injuries or no injuries. As the preamble discussion of Paragraph (h)(3) makes clear, incentive plans of this type can effectively deter reporting because employees may value the prize more than any health or safety benefit that reporting would produce. See, *e.g.*, Tr. 15453, 10992, 7703). Moreover, in plans that reward teams of employees for low rates of reported injuries, peer pressure exerted by the group can be an effective deterrent to reporting by team members (Tr. 15453, 11638).

For these reasons, OSHA finds that non-monetary incentives would not be as effective as WRP in encouraging employees to report MSDs.

2. Duration and Level of Benefits

(a). *Maximum duration.* The proposed rule established a maximum duration of 6 months for each episode of WRP benefits. Several commenters supported the agency's preliminary determination that benefits should be provided for up to six months if necessary (see *e.g.*, Exs. 500-218, p. 131; 32-185-3, p. 11-10). Other commenters argued that a six-month duration is unnecessarily long in light of the data showing that most MSD cases will recover in far less time (Exs. 30-352; 32-300-1; 30-3344). The EEI

recommended reducing the maximum duration period to 3 months:

Even if OSHA chooses to maintain a WRP provision, it has not shown sufficient justification for six months of coverage. OSHA claims that early recognition, diagnosis and treatment interventions will lead to speedier recoveries from MSDs. Given this premise, the six-month WRP period of time is inordinately long and may enhance the tendency for an employee with a mild MSD case to malingering. OSHA recognizes within the [proposed rule's] preamble a median length of disability for all MSDs of 99 days with many of these cases resolving in significantly less time. Reducing the WRP to three months would be consistent with the anticipated benefits of the proposed rule and will reduce the cost and complexity of the program to employers.

Ex. 32-300-1, p. 23.

OSHA preliminarily estimated that while most employees with lost-work-time MSDs would recover within 3 months, over 12% of all lost workday cases involved more than 3 months away from work, and that for some types of serious MSDs, the typical disability duration was more than 3 months (64 FR 65855). OSHA concluded that a six-month maximum time for WRP was reasonable because it would allow the majority of workers with more serious MSDs time to recover before losing their benefits. Id.

In the final rule, OSHA has revised its estimates of the number of days employees will be out of work due to MSDs. The agency now estimates that 90% of all workers who experience lost work-time MSDs will return to work within 3 months. In addition, OSHA estimates that in approximately 70% of cases in which workers' compensation claims for MSDs are filed, benefits will be available to replace up to two-thirds of the employee's lost wages. See OSHA's Final Economic Analysis. While a high percentage of workers with MSDs do not currently file claims for workers' compensation benefits, OSHA expects this rate of under-filing to decrease with the implementation of WRP, particularly in cases in which the recovery period exceeds three months. Employees will have an incentive to pursue benefits since claims-filing will not threaten immediate economic harm, and may be the only avenue to recovery of medical expenses and extended wage loss. See Emily Spieler, Ex. 37-14, pp. 18-19, and Tr. 3353. Employers will also have a greater incentive to encourage employees to file claims, or to initiate claims themselves in the majority of states that permit employer-filed claims, because the final rule permits an offset against WRP for workers' compensation benefits received by employees. Thus, of the

relatively few workers who will require more than 3 months to recover from their MSDs, a substantial number will be eligible for workers' compensation benefits to replace a portion of lost income and to pay for medical expenses.

For these reasons, OSHA concludes that a three month maximum time period for WRP is appropriate. Based on the estimates discussed above, OSHA believes that the vast majority of workers with lost-time MSDs will receive, or be eligible to receive, a substantial portion of their wages while recovering. OSHA acknowledges that there will be some workers who will require more than three months to recover, and who will not receive workers' compensation or other benefits after the first three months. However, OSHA estimates that this group will represent a small proportion of all workers with lost-time MSDs.

The Agency does not believe it is appropriate to structure WRP requirements around this small group of employees. WRP is intended to provide temporary benefits to encourage employees to report MSDs and to participate in MSD management. As discussed at length in Section B above, WRP is not intended as a federal remedy for workers who have suffered work-related MSDs, or as a supplement to state workers' compensation systems. Based on the record, OSHA believes that a requirement to provide WRP for up to 3 months will be effective in substantially increasing the number of employees reporting MSDs and their signs or symptoms. While requiring WRP for up to 6 months or longer would provide a greater degree of economic protection to injured workers, it would likely produce little if any additional improvement in reporting. As OSHA noted in the proposal, the available data indicate that overall, the number of workers out of work for less than 6 months is not significantly greater than the number of workers out of work for less than 3 months (64 FR 65855).

In the proposal, OSHA considered several alternatives that would have reduced the maximum duration of MRP benefits to substantially less than 90 calendar days. OSHA preliminarily concluded that limiting MRP benefits to no more than seven days would not provide the requisite protection to employees to encourage them to report MSDs early and to participate in MSD management. 64 FR 65856. The agency noted that employees whose injuries do not resolve within the WRP coverage period would have to rely on workers compensation, and that the effect of the waiting periods required by state

systems could be that some of these employees would have no protection for several days. Id. In addition, employees who require more than seven days to recover, but who are not covered by workers' compensation, would face substantial financial pressure to return to work early. For these reasons, OSHA preliminarily concluded that this alternative would have a chilling effect on early reporting. Id.

OSHA solicited comment on whether the alternatives outlined in the proposal, or other alternatives would effectively encourage early reporting and participation. 64 FR 65858. The agency received no evidence that providing WRP for less than 90 calendar days would achieve this purpose. Accordingly, the final rule requires that WRP be provided for up to 90 calendar days.

(b). *Interim cutoff points.* The final rule permits employers to terminate WRP benefits before the expiration of the 90 calendar day maximum period if one of the following occurs: (i) the employee is able to resume the former work activities without endangering his or her recovery, or (ii) an HCP determines, subject to the dispute resolution procedure in paragraph (s), that the employee can never resume his or her former work activities.

As explained in the preceding discussion, OSHA's data show that in most cases, work restrictions will not be needed for 3 months because the employee will have recovered in less time. The standard permits the employer to end WRP before 3 months if a determination is made that the employee is recovered and able to return to his or her regular job. This is consistent with the principle that work restrictions or removals are temporary and protective in nature, and with OSHA's practice in other standards containing benefits similar to WRP (see e.g., Lead, 43 FR 54440, Formaldehyde, 57 FR 22294). No party opposed the provision that WRP may be ended when the employee is able to return to his or her regular work.

Employers may also reduce their obligation to provide WRP benefits by addressing the MSD hazards in the job at an early date. Once the employer has controlled the MSD hazards so that the employee can resume his/her regular duties without endangering his/her recovery, work restrictions or work removal are no longer necessary. Controlling the MSD hazards in the job quickly is one way that employers may limit the number of days that MRP benefits must be paid.

The proposed rule contained no provision for ending WRP benefits once

it becomes clear that the employee will not recover sufficiently to return to the job. Several commenters urged OSHA to include such a provision in the final rule (Exs. 500–218; 32–337–1). The AFL–CIO stated:

[T]he AFL–CIO recommends that OSHA include [an additional] WRP cut-off point, consistent with the WRP provisions in other standards. An employer should be permitted to terminate WRP if and when it is determined that the employee is unable to return to the job * * *. At this point, temporary removal no longer serves OSHA's health protective goal and the worker presumably becomes eligible for workers' compensation.

Ex. 500–218, pp. 131, 127. OSHA agrees that a work restriction or work removal is no longer necessary once it is clear that the employee will not recover sufficiently to be able to return to the job. Accordingly, the final rule permits employers to end WRP benefits before the expiration of three months if a determination is made that the employee is permanently unable to return to his/her regular job.

Some participants suggested that the final rule should contain a limitation, similar to that in the FMLA, on the maximum number of days of benefits in any year. The Chamber of Commerce urged this approach, arguing that under the proposed structure, an employee could theoretically receive WRP for the maximum period, return to work for a day, and then receive another round of MRP benefits. By repeating this cycle, an employee could receive virtually his full annual pay and benefits while actually working only a few days during the year (Ex. 30–1722, pp. 81–82).

OSHA does not believe that the scenario posited by the Chamber is realistic. Employers can significantly reduce the likelihood of having to pay MRP benefits to the same employee on successive occasions by controlling the MSD hazards in their problem jobs effectively. By acting promptly to address MSD hazards, and effectively managing the MSDs that do occur, employers can ensure that, in most cases, injured employees will be able to return to work at full productivity and without the need for further restrictions. Moreover, while there may be some unusual instances in which employees will legitimately need work restrictions more than once in a year for the same job, employers need not allow employees to cycle endlessly in and out of WRP. If an employee requires work restrictions on several consecutive occasions despite the fact that the MSD hazards have been controlled to the extent required in the standard, that is a strong indication that the employee is

physically unable to perform the job. As noted above, the standard permits the employer to end WRP if a determination is made that the employee is permanently unable to return to his regular job. For these reasons, OSHA does not believe that an express limitation on the number of days of WRP during the year is appropriate. The final rule thus contains safeguards which effectively limit the circumstances in which an employee could receive WRP benefits at repeated intervals in a year.

(c). *Level of benefits.* The final rule requires that the employment rights and benefits of employees be fully maintained for the duration of the WRP period. Employers must maintain the earnings of employees placed in restricted work jobs at their pre-WRP level, and must maintain the earnings of employees temporarily removed from work at 90% of their pre-WRP level. The proposed rule contained the same requirements as the final for maintenance of employment rights and benefits. However, the proposal required maintenance of either 100% or 90% of "after-tax earnings," depending upon whether the employee was assigned restricted work or was temporarily removed.

Many participants criticized this provision. Although OSHA intended the provision to mean that the employee's net earnings should be 90% of the net earnings the employee would have received by working, a number of commenters thought the provision meant that the employee's gross WRP benefits should be equal to 90% of net earnings. Thus, the AFL–CIO argued that this formulation could result in WRP benefits being taxed twice, and would be problematic for employers to implement (Ex. 500–218, pp. 121–122). OSHA agrees, and has deleted the reference to "after-tax earnings." It uses the word "earnings" in the final rule. Earnings generally means gross pay.

The AFL–CIO also objected to providing only 90% of pre-WRP wages to employees temporarily removed from work, arguing that full wage protection is necessary to encourage employee reporting and participation (Ex. 500–218, pp. 122). However, employees who remain at home do not incur certain expenses, such as commuting and child care expenses, incurred by employees who must report to work. Therefore, some reduction from the wages of workers removed from work is appropriate to balance the cost savings that these workers accrue; otherwise employees would reap a financial benefit from WRP (Ex. 32–22–1; p. 17). OSHA considers that restoring 90% of

the earnings of employees removed from work approximates the portion of these employees' wages actually lost due to MSDs.

3. Offset Provision

The final rule permits an employer to reduce its WRP obligation to an employee with a work restriction by the amount that the employee receives in compensation for lost earnings during the period of restriction from a publicly or employer-funded compensation program, or receives in income from employment made possible by virtue of the employee's restriction. This provision is designed to ensure that employees will not receive more than current earnings as a result of a work restriction (64 FR 65848).

Several parties maintained that the provision will not achieve its purpose in preventing injured employees from receiving a double recovery because WRP payments will generally be paid before the employee receives workers' compensation benefits and state laws preclude employers from attaching such benefits (Exs. 32–22–1; 30–4467). The General Counsel of the New Mexico Workers' Compensation Administration expressed this view as follows:

Whenever the workers' compensation system delays benefits for any legitimate reason, the worker is paid WRP under the Proposed Standard, and then later paid for the same lost work time by the employer's workers' compensation insurer. The employer has no legal mechanism for recapturing that portion of the WRP pay that was supposed to be offset. Since no state law currently has a provision allowing for reduction of workers' compensation benefits on the ground that WRP pay was already paid for the same injury, the various state workers' compensation laws will need to be revised to make the offset provision for WRP work.

Ex. 32–22–1, pp. 19–20 (emphasis in original).

OSHA does not agree that changes in state laws are needed to effectuate the offset provision. First, contrary to this commenter's assertion, some state laws already have adequate provision for employers to recoup wages paid to employees who later qualify for workers' compensation. For example, the New York state official charged with responsibility for the State's workers' compensation system testified that:

[t]he offset provision would be effective even if the workers' compensation claim took more than six months to resolve because our system allows for payments of benefits to employers who have provided other compensation such as sick leave to employees prior to the award of compensation benefits.

Tr. 3354 (Eliot Spitzer). Employers are also free to structure their employment contracts to allow recovery of wages paid during a period for which workers' compensation benefits are awarded. Nothing in the record shows that contractual remedies would not be effective, or that employers would have greater difficulty in recouping WRP overpayments than they have in recouping other monies advanced to employees (Ex. 500-218, pp. 128-129). For these reasons, there is no basis to conclude that the offset provision will be unworkable or ineffective.

4. Fraud

A number of commenters argued that the WRP provision will entice large numbers of employees to attempt to secure these benefits fraudulently. These parties were concerned that employees will report MSDs that are not related to work activities, or will exaggerate their MSD symptoms to secure work restrictions that are not necessary or to extend work restrictions longer than needed (Exs. 30-1722; 32-241-4; 30-4467; 32-234-2; Tr. 6470, 9847-8, 14215). NCE *et al.* stated:

The evidence is clear that the employees most likely to complain of musculoskeletal discomfort are those who do not like their jobs. These employees' subjective complaints must be taken as given under the proposed rule, and cannot be subjected to objective verification. When these workers are given the additional incentive of time off at 90 percent pay, or less demanding job tasks at 100 percent of pay, a vast increase in reported musculoskeletal pain is certain to follow.

Ex. 32-241-4, p. 185. Similarly, the Chamber of Commerce argued that, based on the extent of workers' compensation fraud nationwide, "the only reasonable assumption is that the WRP provision will increase such fraud because the dollar amounts at issue are greater . . . And this problem is likely to be especially acute where, as here, the diagnosis at issue is . . . a loose collection of poorly defined signs and symptoms" (Ex. 30-1722, p. 77).

OSHA does not believe that the record bears out these commenters' concerns. As a threshold matter, there is substantial evidence that worker-perpetrated fraud is but a very small part of the overall fraud problem in workers' compensation systems (see Exs. 500-97; 500-97-1; 500-97-2; 500-97-3; 500-218; 502-254; 502-258). The AFL-CIO noted that:

[t]wo states that have devoted significant resources to workers compensation fraud investigation and reporting, California and Wisconsin, have found incidences of worker fraud to be minimal. In California, worker

fraud was present in less than 3/10ths of one percent of total claims (Ex. 500-97-1); in Wisconsin, it was one tenth of one percent of claims (Ex. DC 78).

Ex. 500-218, p. 131. The former Commissioner of the West Virginia Workers' Compensation Fund testified that in her experience in administering claims, there was little evidence that workers prolonged their benefits by remaining out of work unnecessarily (Tr. 1733-34). Other witnesses agreed with this assessment (Tr. 3559-60 [James Ellenberger], Tr. 11001 [Madeline Sherod], Tr. 11102 [Trevor Schnell]). Accordingly, the experience gained in the worker's compensation field does not demonstrate a high potential for employee abuse of WRP.

In addition, the final rule contains features that will reduce the opportunity for fraud in administering WRP. First, work restrictions are required only for work-related MSDs and only if the employee's job meets certain objective screening criteria. These requirements are designed to ensure that there is a close nexus between the injury and significant exposure to ergonomic hazards at work. Moreover, work restrictions are not required unless an HCP or the employer itself has determined that they are necessary. Thus, even if an employee falsely reports MSD symptoms, work restrictions and WRP are not required unless the employee's job meets the screen and a medical professional selected by the employer determines that they are necessary. Therefore, commenters substantially overstate their case in asserting that subjective symptoms alone trigger work restrictions.

OSHA believes that HCPs, in particular, will play an important role in checking abuse. Health care professionals use a variety of techniques to identify fraud. Nothing in the record supports the notion that HCPs are frequently duped by false symptoms; to the contrary, HCPs are adept at evaluating the objectivity of patient claims. Moreover, data in the record shows that most HCPs are far more likely to recommend work restrictions than time away from work. (Ex. 500-118). Further, since 1992, the percentage of restricted workdays for all occupational injuries and illnesses reported to the BLS has increased by 50%, while the percentage of lost workdays has decreased by a substantial margin.

This is not to suggest that instances of fraudulent claims for WRP benefits will not occur, or that OSHA condones such conduct by employees. Rather, OSHA believes that the final rule provides

effective safeguards employers can use to prevent employees from receiving WRP benefits to which they are not entitled. Therefore, the potential for fraud is not a basis for eliminating WRP.

Paragraph(s) What Must I Do if the Employee Consults His or Her Own HCP?

Paragraph (s) of the final rule establishes a procedure for resolving disagreements among HCPs. The proposed rule did not contain a comparable provision.

Numerous commenters, including both employer and employee representatives, argued that accurate medical assessments are critical if parties are to have confidence in decisions about work restrictions and WRP. A representative of the American College of Occupational and Environmental Physicians explained:

[t]he central role that [medical] evaluations play in triggering requirements of the rule make the inclusion of a three-physician review in the ergonomic standard particularly appealing. We recommend that the standard provide for multiple physician review to sort out the differences of opinion and ambiguities in the diagnosis. The key element to triggering implementation of a program review should be based again on a bona-fide medical diagnosis in light of the corresponding duties.

Tr. 7654 (Dr. Robert McCunney). The AFL-CIO argued that multiple physician review or MPR is necessary to gain the trust and participation of employees. It asserted,

[w]orkers have always been concerned about the objectivity and allegiance of employer-chosen physicians * * *. MPR is important to assure workers that physician hostility to WRP will not result in adverse consequences when workers step forward and report. Without the possibility that a colleague will review, and possibly take issue with, a decision denying worker transfers or prematurely returning workers to hazardous exposures, employer physicians may feel financial pressure from employers to minimize WRP participation.

Ex. 500-218, p. 124. *See also* Exs. 32-111-4 (USWA); 32-85-3 (CWA).

The EEI voiced concern that if employees are allowed to choose the initial HCP, the person they select may not have the time or experience to work with employers in determining appropriate restrictions. It argued that:

[t]he employee's personal healthcare provider may also not understand that assignment of work hardening and/or returning the employee to work on restricted duty as soon as possible are important in the recovery process. The employer is much more likely to select an HCP that recognizes the need to interface with the health and safety staff in developing restrictions

appropriate for the job and who will provide the type of care that is consistent for all employees at the work location. The employer will also have more control over the follow-up process, assuring that the follow-up is appropriate for the specific MSD and that it is completed in a timely manner.

Accordingly, EEI urges that any final standard clearly provide that employers shall select the healthcare provider for the WRP program, at least in the first instance. EEI would not object if the standard permits an employee to seek a second opinion.

Ex. 32-300-1, p. 30.

The Agency believes that the concerns expressed by all of these commenters are valid. OSHA agrees with the EEI that the employer should have the option of selecting the HCP to provide the initial recommendation on a work restriction. The final rule requires the employer to implement an MSD management process that includes "access to an HCP." The employer may fulfill this obligation by arranging for the injured employee to visit an HCP selected by the employer. Alternatively, the employer may arrange for the employee initially to visit an HCP selected by the employee. Employers who choose this option should assure themselves that the HCP has the appropriate experience to work with the employer in determining work restrictions.

OSHA also agrees with commenters about the need to assure accuracy and competence in medical assessments. Accordingly, paragraph (s)(1) provides that if the employer selects the health care professional to make a recommendation about a work restriction, the employee may select a second HCP to review the first HCP's finding. If the employer allows the employee to select an HCP to make the initial recommendation on a work restriction, the rule does not provide for further review because OSHA expects that, in this situation, both parties will have confidence in the HCP's findings. On the other hand, if the employee has seen an HCP on his or her own, before the employer has exercised its option to select an HCP, the employer may refer the employee to a different HCP. In this case, the employee may rely on the recommendation he or she has already obtained as the second opinion for purposes of the final rule.

If the second HCP's determination differs from the first, the employer must take reasonable steps to arrange for the two HCPs to discuss and resolve their disagreement. This means that the employer should instruct his HCP to contact the employee's HCP to discuss the matter directly. If the two HCPs cannot resolve the conflict quickly, the employer and the employee, through their HCPs, must designate a third HCP

to review the temporary work restriction or work removal determination. The employer must act consistently with the determination of the third HCP, unless the employer and employee agree to a restriction that is consistent with the opinion of at least one of the HCPs. Paragraph (s)(5) allows the employer and the employee to agree upon an alternative dispute resolution mechanism to use in lieu of the one set out in the final rule, if it is at least as protective of the employee. For example, the employer and employee may agree in advance that the employee will see a certain HCP, whose recommendation will be binding. The standard thus allows employers a degree of flexibility in structuring an alternative dispute resolution process, provided that the employee's right to a choice in the selection of HCPs is not compromised, and the process is expeditious. These provisions are similar to the multiple physician review mechanisms contained in OSHA health standards, such as lead and formaldehyde. OSHA adopts them in this final rule because they have proved effective in assuring that all parties have confidence in the accuracy and fairness of medical determinations about work restrictions and therefore contribute to the overall effectiveness of the rule's medical surveillance (MSD management in this rule) provisions.

Paragraph (t). Training

Training is a critically important element of the final ergonomics program standard, as it is of virtually every safety and health standard (Ex. 26-2). In training for ergonomics programs, the goal is to enable employees at all levels of the organization—managers, supervisors or team leaders, and employees—to: (1) Recognize the signs and symptoms of musculoskeletal disorders (MSDs) so that they can report them early (employees) and respond to them appropriately (managers, supervisors, and team leaders); (2) identify those job tasks that pose an increased risk to the worker of developing an MSD; and (3) have the knowledge and skills necessary to participate in the establishment's ergonomics program. The success of ergonomics programs depends to a great extent on the effectiveness of the training in ergonomics the employer provides.

Most comments on the proposed training provisions were supportive, although many commenters suggested modifications to the proposed requirements (see, e.g., Exs. 30-3826, 32-111-4, 32-182-1, 30-3686, 32-198-4, 30-3765, 32-339-1, 32-198-4-15,

30-4538, 32-77-2, 32-185-3). Only a few commenters argued that training should not be addressed by the final rule (see, e.g., Exs. 30-240, 30-541, 30-3867). The following discussion responds to public comment received and explains OSHA's reasons for including the requirements in paragraph (t) of the final rule.

In the proposal, OSHA included, for each core element of the program, a "Basic Obligation" provision. The purpose of these sections of the proposal was to summarize the more detailed subelements proposed for each core element. The final rule does not include these basic obligation provisions, because commenters found them confusing and not useful. Comments on specific aspects of the Basic Obligation section are discussed below, in connection with the individual training requirements of the final rule.

The proposed Basic Obligation section for training provided that any training required by the rule was to be provided "at no cost to employees" (see the Basic Obligation section for proposed section 1910.923). This proposed language expressed OSHA's intention for the employer to bear all of the costs associated with OSHA-required ergonomics training. For example, any training materials given to employees must be provided to them free of charge. Further, employees must be compensated at their regular rate of pay for time spent receiving training during regular work hours, and employees cannot be required to forfeit their regularly scheduled lunch or rest periods to attend training sessions. In addition, where training requires employees to travel, the employer must pay for the cost of travel, including any travel time occurring when the training activities are scheduled outside of the employee's normal work hours.

The final rule does not contain this specific proposed language about the costs of training, because that language is not necessary for OSHA to impose these costs on the employer. The proposed provision merely restated OSHA's longstanding policy, which requires employers to bear the costs of complying with safety and health requirements promulgated under the Act. OSHA finds it reasonable and appropriate for employers to bear the costs of training because, under the Occupational Safety and Health Act of 1970, employers are responsible for providing a safe and healthful workplace, and training is an integral part of this responsibility. It is clear that having employees bear such costs would discourage participation in

training activities, and would thus limit the effectiveness of the rule's training requirements.

Several organizations commented on OSHA's interpretation of the proposed "at no cost to employees" language (see, e.g., Exs. 30-3813, 30-3686, 32-339-1). With reference to the preamble to the proposal [64 FR 65833], which explained that employees could not be required to forfeit regularly scheduled lunch or rest periods to attend training sessions, one organization stated that OSHA had cited no evidence showing that employees receiving training on MSDs during "brown bag" lunch sessions or during "scheduled rest periods" would be harmed by this practice. This commenter contended further that OSHA's interpretation of the "no-cost" provision was an intrusion into workplace management and scheduling, which should be the employer's exclusive prerogative (Ex. 30-3813). In contrast, other organizations supported the "no cost to employees" requirements of the proposed rule (Ex. 30-3686) and additionally urged OSHA to limit training to working hours (Ex. 32-339-1).

OSHA has no objection to training during brown bag sessions or breaks, provided that employees are paid for this time (and, of course, that no laws governing break times are contravened to comply with this provision). Many employers do have paid lunch hours or half-hours and breaks where training can occur without risking non-compliance with this provision. However, if these time periods belong to employees, *i.e.*, are not periods that are on the clock, they cannot be used for the training required by this standard.

Who Should be Trained?

OSHA proposed that employees in "problem" jobs (defined in the proposal as those jobs in which an employee had experienced a covered MSD and performed activities involving exposure to risk factors for a substantial amount (or as a "core element" of the work shift), their supervisors, and persons involved in the ergonomics program (except for outside consultants) be trained initially, periodically as needed, and at least every three years. The final rule, at paragraph (t)(1), includes similar requirements, although the final rule's initial and follow-up training requirements apply only to jobs that meet the Action Trigger, rather than to "problem jobs," as proposed. In addition, while the final rule requires initial and 3-year follow-up training, it does not require "refresher" training at other intervals. The specified initial and

follow-up training requirements are well-suited to the revised format of the standard and the Action Trigger concept.

OSHA's reasoning in including these requirements in the final rule is that, once employees in jobs meeting the action trigger have been trained, they will be able to report MSD hazards and problems early enough to prevent problems from becoming worse and to protect other employees in the same job from incurring a similar MSD. Early reporting informs employers of the need to address MSD hazards and provide MSD management. Trained employees can also participate more effectively in the program and thus better protect themselves by working safely. OSHA also believes that the supervisors (or team leaders or lead employees) of employees in these jobs must be trained because they are the personnel to whom employees report their symptoms and the presence of MSD hazards. Supervisors are in a position to ensure that employees in such jobs understand the conditions that may lead to MSDs and use the work practices and procedures established by the employer to control MSD hazards. Also, in many cases, supervisors are in a position to observe MSD hazards first hand and to recognize when MSDs are developing in the workers they supervise.

OSHA also believes that training is critical for those individuals who establish, administer, and implement the employer's ergonomics program. Because these managers represent the employer, it is in the employer's best interest that program administrators and others responsible for implementing the program be as knowledgeable as possible. Also, as these managers become more knowledgeable, they will provide better training to their employees in the ergonomics program. Of course, as the proposal noted, outside consultants do not have to have employer-provided training because consultants are responsible for preparing themselves to perform their professional duties.

The question of who should be trained was a significant issue in the rulemaking. Commenters offered opinions on a variety of issues and represented conflicting viewpoints. The major issues with respect to who should be trained under the ergonomics rule were:

- The scope of the training provision,
- The number of employees to be trained,
- Whether supervisory employees should be trained, and
- The training and qualifications of trainers.

Some commenters urged OSHA to be more inclusive in the employees required to be trained. They stated that all workers, or all general industry employees (see, e.g., Exs. 30-3826, 30-297, 30-4538), or all workers in the industry (see, e.g., Ex. 30-3686) should be trained. Some stated that, although all employees should receive training, employers should conduct more extensive training specifically for those in problem jobs (see, e.g., Ex. 30-4538). The thrust of these comments, in general, was that the training required by the standard should be expanded beyond employees in problem jobs (see, e.g., Exs. 30-3826, 30-3686, 32-182-1, 30-3765, 32-198-4, 30-297, 30-4538). For example, Dow Chemical stated,

Employees having an active role in the prevention of MSD injuries and information on how best to recognize and control MSD hazards is a necessary component of a successful program. In fact, Dow encourages such training for employees, beyond whether they are in a "problem job" or not. All work activities involve some bodily movement and therefore MSD risks are always present. Dow supports internally a more pro-active sharing of this type of information rather than waiting for an MSD to present itself (Exhibit 30-3765).

Expanding the scope of the required training to include more employees, and to include employees who have not experienced an MSD, would clearly make this program element more proactive, as many commenters urged (see, e.g., Exs. 30-3826, 32-111-4, 30-3686, 32-182-1). Some participants argued that the full program, including training, should be implemented without waiting for workers to report injuries (see, e.g., Ex. 32-198-4). Others suggested that training be part of new employee orientation (see, e.g., Ex. 500-180-51) be provided when workers are transferred (Ex. 32-182-1), or be given when the ergonomics program is first implemented or new employees are hired (see, e.g., Ex. 32-198-4). One commenter stated that the training requirements of the proposed rule, unlike the case in other OSHA rules, do not apply to workers who are only *potentially* exposed but instead apply only to workers who are actually exposed (Ex. 32-339-1).

Given the central role of the workers in an effective ergonomics program (e.g., reporting symptoms and hazards and making recommendations about controls), we believe that more regular training is warranted (Ex. 32-339-1).

Another comment addressed the effect that training only some employees might have on employee morale. This commenter noted that, in some ergonomics pilot training programs,

employees who perceived that they were not going to be included in the program (whether rightly or wrongly) because they were not trained when others were, felt excluded and were later less cooperative (Ex. 32-194-4).

OSHA also received comments recommending that: (1) training be limited to employees with MSDs and the employees' supervisors (Ex. 30-3813) rather than, as proposed, to all employees with the same job as the injured employee; (2) different groups of employees be given different levels of training (Ex. 30-240); and (3) the formal program apply only to specific employees in jobs where ergonomic issues are prevalent (Ex. 30-240). One commenter stated that training should be triggered only when a statistically significant percentage of employees in a job have incurred, within the year, work-related, HCP-diagnosed MSDs that resulted in days away from work (Ex. 30-3344).

The final rule's training provisions (paragraph (t)), together with the informational requirements in paragraph (d), address many of the issues raised by commenters. First, OSHA has adopted a "tiered" approach to training. The Agency agrees that all employees should receive orientation or awareness training (see, e.g., Exs. 30-3686, 32-182-1, 32-198-4) but those at greater risk must receive more extensive training (see, e.g., Exs. 30-3686, 32-339-1, 30-240). Paragraph (d) of the final rule requires that general awareness information be provided to all current employees and new hires. This new provision also addresses the concerns of those commenters (see, e.g., Exs. 30-3826, 30-297, 30-4538, 30-3686, 32-182-1, 30-3715, 32-198-4) who argued that as many employees as possible should be aware of MSD hazards and how to prevent them. The awareness information required by final paragraph (d) also should help to avoid the dampening effect on employee morale noted by one commenter (Ex. 32-194-4). (The summary and explanation for paragraph (d), above, provides more detail on the general information requirements.)

Second, training is required by the final rule for employees in jobs that meet the standard's Action Trigger. OSHA views the occurrence of a work-related MSD and the presence of risk factor(s) at the level(s) indicated by the Basic Screening Tool as an indication that the job is one that warrants a closer look. Such a job has the potential to expose workers in the job to MSD hazards. Because the two-part action trigger in paragraph (e) triggers training for the injured employee and for all

other employees in the establishment with the same job, the final rule's structure is more like that of other OSHA standards (e.g., the hearing conservation amendment to the occupational noise standard, 29 CFR 1910.95), as some commenters suggested (see, e.g., Ex. 32-339-1). However, because OSHA has designed the final rule to target those situations where the problem is most serious, the standard's training requirements are triggered for a job only when the action trigger has been met for that job, and not, as some commenters suggested, when the program is first implemented (see, e.g., Exs. 32-198-4).

The Agency does not agree with those commenters who stated that training should be required only for injured employees and their supervisors (Ex. 30-3813), or only for employees in jobs where ergonomic issues are "prevalent" (Ex. 30-240), or only for employees in jobs that have caused MSDs in a statistically significant percentage of employees within the prior year (Ex. 30-3344). Restricting the number of employees receiving training in ways suggested by these commenters would be, in OSHA's view, both inappropriate and insufficiently protective. First, limiting training to injured employees and their supervisors would eliminate one of the standard's proactive features, i.e., that other employees holding the same job as the injured employee be trained in the risk factors in that job, the signs and symptoms associated with the MSDs caused by those risk factors, and ways to protect themselves from experiencing an MSD. OSHA believes that this provision of the standard will contribute substantially to the standard's effectiveness by ensuring that all employees in these higher risk jobs receive training. A recent study showed that employers were likely to limit their efforts to control MSD hazards to the injured worker's job and not to extend preventive practices to other workers in the establishment who had the same job (Ex. 30-651-2). OSHA believes that this provision of the standard will ensure that all at-risk workers in the same job will be protected. Absent such a provision, this preventive effect would be lost.

Third, limiting training only to employees in jobs where ergonomic injuries are "prevalent" (Ex. 30-240) or where a statistically significant percentage of employees have had an MSD in the last year (Ex. 30-3344) would deny the standard's training benefits to all injured and potentially exposed workers except those working in very large establishments, since only such establishments would have enough

employees in a given job to meet the prevalence or statistically significant tests suggested by these commenters. Such an approach is clearly unprotective for the many thousands of workers in small- or mid-sized establishments who would not receive training even in cases where they have experienced an MSD incident.

OSHA concludes, after a comprehensive review of the record on the issue of who should receive the training required by the final rule, that paragraph (t)(1) strikes the right balance on inclusiveness. It does this by requiring training for each employee who has experienced an MSD and works in a job that meets the Action Trigger, and all other employees working in that job.

The final rule requires the supervisors or team leaders of these employees to be trained, so that they will encourage early reporting, know how to respond to employee reports, reinforce good work practices, and be familiar with ergonomic principles and practices. Several commenters (Exs. 30-3765, 32-198-4, 30-3859) commented on the proposed requirement to train the supervisors of those in higher risk jobs. One commenter noted that the term "supervisor" is no longer used in some workplaces, which are organized in less traditional management structures (Ex. 30-3765). This commenter pointed out that some managers may direct more than a hundred employees, and that these employees may be widely dispersed geographically. In the view of this commenter, the rule should state that employers must train "knowledgeable resources," rather than stipulating that supervisors must be trained. In the final rule (at paragraph (t)(1)(ii)), OSHA states that employers are required to train the supervisors or "team leaders" of employees in jobs that meet the Action Trigger. The addition of the term "team leaders" conveys OSHA's intent, which is to require first-level management personnel to be trained, whatever their official title may be (supervisor, team leader, team manager, knowledgeable resource, and so forth). OSHA is also aware that many workplaces rely on members of an ergonomics committee, joint labor-management, or a trained group of employees (see, e.g., Ex. 30-115); however, the standard does not specifically address the training of these employees.

Paragraph (t)(1)(iii) specifies that employers also must train "other employees involved in setting up and managing" the employer's ergonomics program. This provision is similar to the proposed provision, except that it

substitutes "employees" for "persons" (the proposed term). OSHA has directed this provision to employees rather than persons because doing so makes it clear that the Agency is not regulating individuals operating outside of the employment relationship.

Initial and Refresher Training. The proposed rule required that training be given in accordance with the following timetable:

For employees in problem jobs and their supervisors.	(1) When a problem job is defined; (2) When initially assigned to a problem job; (3) Periodically as needed (e.g., when new hazards are identified in a problem job or changes are made to a problem job that may increase exposure to MSD hazards); and (4) At least every 3 years.
For persons involved in setting up and managing the ergonomics program.	(1) When they are initially assigned to setting up and managing the ergonomics program; (2) Periodically as needed (e.g., when evaluation reveals significant deficiencies in the program, when significant changes are made in the ergonomics program); and (3) At least every 3 years.

In the final rule, OSHA has revised the timetable for initial training to reflect the addition of the Action Trigger to the standard, and to allow time for the employer to conduct the job screening process and implement the ergonomic program. Accordingly, paragraph (t)(4) provides the following timeframes for initial training: When the employer determines that an employee's job meets the Action Trigger, the employer has 45 days from that time to train employees involved in setting up and managing the program, and 90 days from that time to train each current employee in that job and their supervisor and team leader. Also, if the employer assigns a new or current employee to a job that the employer has already determined meets the Action Trigger, that employee must be trained prior to starting the job.

Paragraph (t)(1) of the final rule also requires follow-up training, every three years, for employees whose jobs meet the Action Trigger. This requirement differs from the corresponding proposed provision, which did not rely upon the Action Trigger concept.

Several commenters (see, e.g., Exs. 32-198-4, 32-198-1/42, 30-3686, 32-339-1, 30-2116, 30-2825, 30-2847, 30-

3001, 30-3033, 30-3034, 30-3035, 30-3258, 30-3332, 30-4159-30-4536, 30-4546, 30-4547) urged OSHA to require refresher training more frequently than once every three years.

Some of the reasons cited by these commenters for more frequent training included:

- Many workers experience problems in less than a year (Ex. 32-198-4-1/42).
- Training should be required annually and whenever jobs or conditions change (Ex. 30-3686).
- Employers should train every two years at a minimum because many employers are already providing training on an annual basis (Ex. 32-198-4).

Other commenters requested that OSHA require training less often or require training less often in some situations (see, e.g., Exs. 32-300-1, 30-3813, 30-3765, 30-327, 30-710, 30-2725, 30-3284, 30-4046). Some specific reasons given for less frequent retraining were:

- There should not be a minimum three year retraining provision for employees where the reported MSD has resolved within the three years and no other MSDs (affecting the same part of the body) have been reported in that job (Ex. 30-3813).
- Employees will retain knowledge about their job's core functions, like how to use controls and work practices properly, even without training (Exs. 32-300-1, 30-3284).
- OSHA should allow employees and supervisors to demonstrate knowledge retention so that they can be exempt from the three year retraining requirement (see, e.g., Exs. 32-300-1, 30-327, 30-1671, 30-328).
- Program administrators should be allowed to bypass portions of initial and refresher training if they already possess background training. This group could include health and safety personnel, medically trained personnel, and ergonomists (see, e.g., 32-300-1, 30-327, 30-1671, 30-3284).

OSHA responds to these comments on the appropriate frequency of training as follows. First, OSHA believes that refresher training every three years for those in higher-risk jobs is appropriate, given the very broad range and diverse nature of businesses covered by this standard. For example, the number of employees in the average business covered by this standard is 16; such a business is likely to experience not more than one or two MSDs in a given year, at most, which means that one or two employees will receive initial training every year and one or two will need refresher training (once the standard has been in effect for a few

years). In a business such as this, ergonomics awareness is likely to be quite high, both because of the amount of training going on and because of the job hazard analysis and control activities being conducted. In other words, the initial training and 3-year follow-up training requirements will virtually ensure that ergonomics training will be a regular part of the program for many employers. In response to those commenters who argued that refresher training every three years was unnecessary or burdensome, OSHA notes that the standard allows employers considerable flexibility in the form that training must take. For example, although all of the required topics must be addressed in the refresher training, trainers who observe that trainees "know the basics" are free to spend more of the training time on such workplace-specific topics as changes to workstations that have taken place since the last training.

Some commenters argued that many workplaces are static rather than dynamic in nature and therefore that workers in them do not need refresher training (see, e.g., Exs. 30-2835, 30-3356). OSHA disagrees. MSDs occur in workplaces with fixed workstations, in service industry jobs, and in office settings; indeed, one of the striking characteristics of MSDs is that they occur in all general industry sectors (see the risk assessment section of this preamble, Section V). Whenever MSDs occur in jobs that meet the action trigger, OSHA believes that workers in these jobs should be trained initially, and that they should also receive follow-up training at least every three years. This approach ensures that those workers who are clearly at risk have the knowledge and skills they need to work as safely in those jobs as possible. The approach taken in the final rule—to require refresher training only for employees, and the supervisors of employees, in jobs that meet the Action Trigger—is also responsive to those commenters who argued that no such training should be required if the problem has gone away (see, e.g., Ex. 30-3813). OSHA is unsympathetic to those who believe that employees do not need refresher training because they will remember what they need to know about the "core functions" of their job (see, e.g., Exs. 32-300-1, 30-3284). This is not OSHA's experience, and the thousands of fatal and disabling injuries that occur in U.S. workplaces every year confirm the fact that workers and their supervisors often do not remember the safe operating procedures in which they were trained.

OSHA has not adopted the suggestion of some commenters (see, e.g., Exs. 32–300–1, 30–327, 30–1671, 30–328) that employees and supervisors who can demonstrate that they have retained the information they learned be exempted from refresher training. OSHA has not done so because refresher training is only required every three years and the Agency believes that periodic retraining is appropriate for all employees in the program. For the same reasons, the standard does not permit managers and supervisors to demonstrate knowledge and be exempted from refresher training, as some commenters suggested (see, e.g., Exs. 32–300–1, 30–327, 30–1671, 30–3284). However, the final rule does not use the word “persons,” as the proposal did, because OSHA agrees with commenters that persons who are not employees (e.g., independent or self-employed ergonomists, safety specialists, industrial hygienists, and so forth) are responsible for their own training.

To those commenters who argued that more frequent refresher training should be required because many employers are already doing it (see, e.g., Ex. 32–198–4), OSHA responds that employers are always free to provide more frequent training than OSHA requires. OSHA does not agree, as some commenters maintained, that employees will continue to remember the essential elements of their training, such as how to implement controls, without refresher training. Instead, OSHA believes that all employees in jobs posing MSD hazards will benefit from the reminders and updating that refresher training provides.

OSHA also is not persuaded by arguments (see, e.g., Exs. 30–3765, 30–3813) that program managers should not have to be retrained. These personnel, like employees, will benefit from renewing their knowledge base and updating their skills every three years, particularly since they only receive this training if the employees under their supervision are in jobs that warrant it.

OSHA does agree that training is more difficult in workplaces with high turnover. The Agency believes that the standard may help employers to reduce turnover, as good ergonomics programs have done in many workplaces (see the case study table in Section VI of the preamble).

The difficulties of training short-term employees, some of whom may only stay with the host employer for a week or less, were discussed by one commenter (Ex. 30–240). According to this comment, training short-term employees in a high-turnover environment is both time consuming

and resource-intensive. OSHA agrees that this is the case; however, ergonomics training is essential for each employee who experiences an MSD incident in a job that meets the Action Trigger, even if that employee is only in the job for a few weeks or months. Employers may also find that training helps to reduce turnover to the extent that ergonomic stress plays a part in employees’ decisions to leave employment. As discussed below, paragraph (t)(5) also allows that if an employee has been trained in a topic required by paragraph (t)(2) within the previous 3 years, the employer need not provide initial training in that topic. OSHA believes that this provision will reduce the burden on employers in high-turnover industries, at least to some extent.

The training and qualifications of the individuals providing the training required by the final rule was the topic of several comments (see, e.g., Exs. 32–111–4, 30–3686, 32–194–4, 32–182–1). These participants stressed the importance of the qualifications of the trainers to effective ergonomics programs, and one commenter (Ex. 32–194–4) expressed concern that, if program evaluations were conducted by untrained managers, inadequate evaluations could result.

OSHA agrees that the knowledge and skills of those administering ergonomics training play a major role in the effectiveness of the training. However, the final rule does not specify the credentials or experience such trainers or program managers must have. Ergonomists, safety professionals, industrial hygienists, and individuals who have taken ergonomics courses, attended train-the-trainer sessions, and learned the basics of ergonomics on-the-job are currently providing the training being presented in existing, effective ergonomics programs and have demonstrated their ability to be effective trainers. A recent study (Ex. 500–71–64) from the *International Journal of Industrial Ergonomics* reports that trained workers do an exceptional job in identifying risk factors and solutions: in 65 to 85 percent of cases, professional ergonomists and trained workers identified the same risk factors when they performed job hazard analyses. The authors of this study concluded that “users [trained employees] can identify rather reliably the risk factors in the jobs.”

Train-the-trainer sessions involving employees also have achieved excellent results; for example, a hospital that introduced patient handling equipment and conducted extensive train-the-trainer and employee training credits

the program with reducing lost-time injuries by 64% within the first year (Ex. 500–71–61). The record thus demonstrates that persons with a wide range of credentials, skills, and experience can effectively train employees, supervisors, and managers, provided that they themselves have been well-trained.

Topics for Training. Paragraph (t)(2) of the final rule requires that the employees identified in paragraph (t)(1) be trained in the following topics (as appropriate to their responsibilities in the ergonomics program):

- The employer’s ergonomics program and their role in it;
 - The signs and symptoms of MSDs and ways of reporting them;
 - The risk factors and MSD hazards present in the employee’s job, as identified by the Basic Screening Tool and the job hazard analysis;
 - The employer’s plan and timetable for addressing the risk factors and hazards identified;
 - How to use engineering, work practice, and administrative controls, or any PPE, that will be used in the job; and
 - How to evaluate the effectiveness of the control approach adopted to reduce the risk factors and MSD hazards.
- With two exceptions, these are the same training topics (with minor editorial changes) that OSHA proposed. The two exceptions are specific training in the requirements of the standard and in the importance of early reporting of MSD signs and symptoms. OSHA has not included these topics in the list of training topics in the final rule because the hazard information provided to employees under paragraph (d) of this standard already includes this information. Thus all employers covered by the standard will have access to a summary of the standard and will be aware of the importance of early reporting.

OSHA believes that training in the topics listed in paragraph (t)(2) is an important way to ensure that employees at all levels of the organization have the information and skills they need to participate effectively in the ergonomics program. Only workers trained to recognize MSD hazards and MSD signs and symptoms, to use the controls implemented to reduce these hazards, and to evaluate the effectiveness of these controls, can make the program work in terms of reducing work-related MSDs.

There was substantial disagreement among those commenters who addressed the content of the proposed training requirements. Several felt that the list of training topics should be

expanded, while others argued that some requirements should be deleted. In addition, many commenters submitted data and information showing that training programs can achieve significant results in reducing workplace MSD hazards and associated MSDs.

Examples of some of the suggestions commenters had for revising the proposed training topics included:

- OSHA should specifically require that employers provide training on the requirements for medical management, Work Restriction Protection, and the standard's prohibition against discouraging workers reports (Exs. 32-111-4, 32-339-1).
- Work Restriction Protection should be explained during the initial training (Exs. 30-4538, 32-339-1).
- First-line supervisors as well as the program manager should have hazard analysis training (Ex. 30-3826).
- Training should include discussions of medical records confidentiality, job hazard analysis (including ergonomic assessment of work stations) and disease and disability related to ergonomic injuries (Ex. 30-3686).
- OSHA should include both detailed and more general topics in initial training, and job-specific training for employees in problem jobs and their supervisors (Ex. 32-198-4).
- Training should cover the importance of height differences among employees, the training of lift team members, and the importance of labeling packages with their weights (Exs. 32-461-1, 30-115, 30-4538).

Other commenters recommended that certain subjects be deleted from the required training topics. For example, several commenters suggested that training on the specific requirements of the standard be deleted from the list (see, *e.g.*, Exs. 30-3765, 32-300-1, 30-240, 30-3284). These commenters were of the opinion that there is no need to provide in-depth training on the standard itself, but that the training should instead focus on elements of the standard only as they specifically apply to the company's program. Further, these commenters believed that employees have ample access and opportunity to familiarize themselves with OSHA standards, including access to OSHA's internet homepage (see, *e.g.*, Ex. 330-3765).

OSHA agrees that the specific suggestions for additional training content made by commenters would be useful to employees. However, the Agency has decided to require only that employees be trained in those basic topics that are essential to worker

protection. The required topics are general, in order to allow the flexibility needed in different workplace situations. This approach is consistent with the training content requirements of other OSHA standards (see, *e.g.*, 29 CFR 1910.1018 and 29 CFR 1910.147). The final rule requires training in the employer's ergonomics program and each employee's role in it; the signs and symptoms of MSDs and ways of reporting them; the risk factors and MSD hazards present in the employee's job, as identified by the Basic Screening Tool and the job hazard analysis; the employer's plan for addressing identified hazards, including the employer's timetable to abate the hazards identified; training in how to use the controls in the job, including any personal protective equipment; and how to evaluate the effectiveness of the control approach used.

OSHA believes that the required topics constitute a minimal training program and recognizes that many employers may choose to administer more extensive training. OSHA anticipates that many employers will cover such topics in their training programs as OSHA's discrimination regulations (Section 11(c) of the Act), Work Restriction Protection, MSD management, and multiple HCP review. Several of these topics are briefly addressed in the information on the standard employees receive in response to the requirements of paragraph (d). OSHA believes that training under paragraph (t) should concentrate primarily on MSDs and MSD hazards that are specific to the employee's job. OSHA has also not included the more detailed topics—package weight labeling, the importance of height differences among employees, lift team training, and so forth—suggested by commenters (see, *e.g.*, Exs. 32-461-1, 30-115, 30-4538). Such topics are workplace-specific and thus not appropriate to include in general training requirements that will apply to all workplaces covered by the standard.

Some commenters recommended that OSHA expand its training activities by developing outreach training programs and other compliance assistance materials (see, *e.g.*, Exs. 30-3686, 30-4538, 32-198-4, 30-3826, 30-614, 30-1037, 30-2806). Some specific suggestions were that OSHA develop a sample curriculum, including audiovisuals (Ex. 30-4538), or that OSHA provide a curriculum, instructor materials (and translations), and training videos at minimal cost (Ex. 32-198-4). Other comments urged OSHA to establish an "advice line" for program managers (those setting up and

implementing the program) and urged employers to work closely with health care professionals. These commenters were concerned that, without such assistance, managers would be tempted to buy expensive but ineffective ergonomic fixes and purchase products that do not address the root cause of the problem (Exs. 30-614-, 30-898, 30-4139).

Other stakeholders suggested that OSHA train its compliance officers to have, at a minimum, the same level of knowledge as consultants advising employers in ergonomics programs (see, *e.g.*, Exs. 30-1037, 30-3922). These commenters urged the OSHA training centers to make ergonomic certification programs and other courses available to the public or at least to make employers aware of sample programs that already exist (see, *e.g.*, Exs. 30-1037, 30-3123, 30-3128).

OSHA does have programs in place to help employers with their ergonomics programs. The Agency offers free consultation services through the states. The OSHA consultation program is specifically designed for small- and medium-size organizations (*i.e.*, employers with 250 employees or fewer per site or 500 per organization). These services are confidential, and consultants will not issue citations or propose penalties. OSHA also offers off-site services to larger organizations and on-site services on a priority basis if resources permit. OSHA staff are available to answer questions from the public any time during OSHA working hours. In addition, OSHA makes a wide range of ergonomics-related materials available on the Agency's website, www.osha.gov.

With respect to the training of compliance officers and other OSHA staff, OSHA's Training Institute in Des Plaines, Illinois, provides basic and advanced ergonomics courses for Federal and State compliance officers, State consultants, other Federal agency personnel, and private sector employers, employees and their representatives. Also, the Training Institute has established Training Institute Education Centers, which are nonprofit colleges, universities, and other organizations selected after competition for participation in the program. In addition, OSHA provides funds to nonprofit organizations through grants to conduct workplace training. Grants are awarded annually to grant recipients, who contribute at least 20% of the total grant cost. OSHA has already trained many of its CSHOs extensively in ergonomics, and has made regional ergonomics coordinators available in the regional offices. In addition, OSHA is

making extensive outreach materials on ergonomics available with the final standard.

Effectiveness of Training. Some stakeholders submitted data to the record on the effectiveness of ergonomics training. Several commenters noted that they had developed training programs, had coordinated programs through outside organizations such as universities, or were in the process of developing or testing training programs (see, e.g., Exs. 30-3826, 32-198-4, 32-77-2, 32-185-3, 30-1294, 30-3336, Tr. 2776, Tr. 2761, 30-449, 30-2713, 30-3368, 30-3758, 30-3867, Tr. 3129-3219, Tr. 14969-15072). Stakeholders described some of the achievements of these programs (see, e.g., Exs. 32-198-4, 32-185-3, 30-449, 30-3336, 30-3758, 30-3867, Tr. 7982), including their contribution to the decrease in the rate of MSDs observed among their members (Tr. 7982) and continued reductions in workers' compensation costs even in the face of increases in wages and health care costs (Exs. 30-3336, 30-3867, 30-4496). The thrust of these comments is that ergonomically aware workers can help their co-workers and their employers to prevent MSDs (Ex. 30-3758).

Several studies in the record demonstrate the benefits of ergonomics training. For example, a study by Parenmark, Engvall, and Malmkvist showed that workers receiving training had a reduced number of lost workdays due to MSDs compared with untrained controls (Ex. 26-6). The number of days lost as a result of arm-neck-shoulder complaints was reduced by half in the trained new hires compared with the control group (Ex. 26-6, Table 2).

An AFGE health and safety representative referenced an Ergonomic Workplace Survey conducted by Rani Lueder, CPE, for the Social Security Administration in 1997 (Ex. 30-449). The large majority of respondents who received the training considered the training helpful, and the trained respondents reported consistently lower rates of discomfort for all body parts, were more willing to report MSD discomfort to their supervisors, and were more satisfied than untrained workers with their supervisors' responses (Ex. 30-499). Also, respondents who were trained were more likely to adjust their chairs, worktables, and other equipment to reduce the risk factors present.

Many commenters at the hearings described the training component of their ergonomics programs (see, e.g., Tr. 12367-12373, Tr. 7977-7982). The extent of the training being

administered varied widely, from very simple training to comprehensive efforts. OSHA believes that the training program required by the final rule will do much to increase the level of ergonomics knowledge and understanding among employees, their supervisors, and managers. This knowledge, in turn, will translate in practice to fewer MSDs, improved morale, and greater productivity. There is evidence in the record that good training programs operate in just this way. For example, a 1997 article in the American Journal of Health Promotion [Ex. 500-71-63] reports that ergonomics training programs lasting about an hour and administered to computer operators described in the article as "high risk" led every trainee subsequently to make changes either in their workstations or their work practices. About two-thirds of the trainees made ergonomically advantageous changes to both.

Another study (Ex. 500-71-59) reports that factory processing line workers who were trained in MSD hazard recognition were subsequently better able to recognize hazards and more willing to report them to their supervisors. OSHA believes that the experiences of these companies will be repeated frequently once the final rule's training requirements are implemented.

Retraining of employees who have already received training. The proposed rule stated that employers do not have to provide initial training to current employees, new employees and persons involved in setting up and managing the ergonomics program if they have received equivalent training in the subjects this standard requires within the last 3 years. However, the proposal stated that employers must provide initial training to such individuals in any of the required topics that their prior training did not cover. The final rule, at paragraph (t)(5), provides that if an employee has received training in a required topic within the previous 3 years, the employer need not provide initial training to that employee in that topic.

Several commenters supported this proposed requirement (see, e.g., Exs. 30-3765, 32-300-1, 30-1671, 30-3284). Some organizations asked OSHA to clarify how the Agency expects an employer to verify such prior training (Exs. 30-3826, 32-300-1). OSHA does not require employers availing themselves of this "portability of training" provision to have written documentation of the employee's prior training or to require the employee to pass an examination (Ex. 30-3826). The Agency does, however, expect employers who wish to benefit from this

provision to assure themselves that employees have in fact had the prior training and have sufficient knowledge to work safely.

A number of commenters objected either to the prior training exemption altogether or to the fact that OSHA proposed to permit training given in the 3 years prior to the compliance date to qualify for the portability exemption (see, e.g., Exs. 30-3686, 30-2116, 30-2809, 30-2825, 30-2847, 30-3001, 30-3033, 30-3035, 30-3258, 30-3332, 30-4159, 30-4536, 30-4546, 30-4547). OSHA has decided in the final rule to retain the training exemption as proposed, because the Agency believes that employees who have received all of the required training elsewhere do not need to be retrained until their refresher training date comes up. Although employees who have had prior training are not required to take initial training, all employees in jobs that meet the Action Trigger must receive refresher training.

OSHA received several non-specific comments only tangentially related to the proposed training provisions. These primarily concerned what the commenters perceived as "vagueness" in the proposed language of the regulatory text. For example, some participants believe that employers will not be able to train their employees because, in their opinion, the standard isn't clear about the steps that need to be taken (see, e.g., Exs. 32-368-1, 30-325, 30-494, 30-2846) and assert that this will make training more difficult and costly than usual (see, e.g., Exs. 32-368-1, 30-1668, 30-2846, 30-3781, 30-3593).

In the final rule, OSHA has revised the proposed standard's training requirements extensively and has clarified areas of overlap and confusion. For example, the basic information requirements in paragraph (d) now apply to all covered employers and are intended to ensure that all employees are familiar with the elements of the OSHA standard, and this topic is no longer also included in the required training topics.

Some commenters argued that OSHA should phase in compliance requirements for the training provisions because it will take time to develop adequate in-house materials. OSHA is aware that it takes time to develop training materials, but OSHA is also aware that many trade associations and other organizations, as well as employers, already have such materials. Further, OSHA is making many outreach materials available at the time the standard is published and in the months thereafter. Consequently, OSHA

believes that the time allowed for employers to come into compliance with the rule's training requirements (see paragraph (x)) is appropriate. The Agency is phasing in all elements of the final rule; therefore, an employer's earliest requirement to train employees under this standard will not arise for about a year after the publication date of the final rule.

What employers must do to ensure that employees understand training. OSHA proposed that employers provide "training and information in language that employees understand." The proposal also stated that employers must "give and receive answers." The final rule, at paragraph (t)(3), contains essentially the same requirements. These requirements provide individual employers with considerable flexibility in ways of achieving compliance (e.g., the "language" may be one all trainees understand rather than the trainee's native language, so long as the trainee understands the language well enough to fully understand the training). Employees have varying educational levels, literacy, and language skills, and training must be presented in a language and at a level of understanding that accounts for these differences in order to meet the intent of the final requirement that individuals being trained understand the specified training elements.

The final rule requires that employers provide opportunities for employees to ask questions and receive answers about the establishment's ergonomics program and anything covered by the training. Again, employers have complete flexibility in the methods they use to comply with this requirement. For example, employers could choose to do the training in-house or to use an outside trainer. Other alternatives would be for the employer to have a qualified trainer available by phone, or through a classroom video-conference.

Commenters addressed three issues related to the proposed requirement that training be understandable to the employee and that employees have the opportunity to ask questions and receive answers about their training. These issues were: The meaning of "understanding"; the meaning of "ask questions and receive answers"; and whether specific training methods should be included in the rule.

Several commenters asked OSHA to explain what it meant by requiring training to be provided "in language the employee understands" (see, e.g., Exs. 30-3826, 32-198-4, 30-3686, 30-3686, 30-3765, 32-339-1, 30-1091). Commenters were concerned that, despite their best efforts, some

employees might not understand the training well enough to "pass" the test if CSHOs asked them questions (see, e.g., Exs. 30-429, 30-494, 30-1090, 30-3122, 30-3557, 30-3593, 30-3781). These employers fear that they would be vulnerable to citation and penalty in such a circumstance. Commenters also interpreted OSHA's "in language the employee understands" terminology to mean that they would have to test employees to ensure adequate comprehension (see, e.g., Ex. 30-3557). Another commenter specifically suggested that the final rule require the employer to demonstrate that the employees had understood the training (Ex. 32-339-1).

Employers were also concerned about having difficulty finding good translations of training materials (see, e.g., Exs. 30-4538, 30-240, 30-429, 30-1090, 30-3868). One commenter noted, however, that training materials in Spanish could be obtained from the Labor Occupational Safety and Health Program at the University of California in Los Angeles (Ex. 30-4538). Some employers understood the proposed "in language the employee understands" terminology as meaning that they would have to train in each of the languages native to their workforce (see, e.g., Exs. 30-240, 30-429, 30-1090, 30-3336, 30-3557), and expressed concern about the potential costs of such a requirement (Ex. 30-3868).

One commenter (Ex. 30-3336) stated that some companies in their industry had employees on the payroll who spoke 12 different languages; this commenter understood the proposal as requiring native speakers in each of these languages to be available to receive and answer questions on the content of the training and the ergonomics program. Moreover, this commenter argued that OSHA's "multilingual" training requirement presented an even greater problem for their industry because it had a history of employing "mentally challenged" individuals (Ex. 30-3336).

In response to these comments, OSHA reiterates that the final rule does not require employers to present training in the native languages of the employees working in the establishments. In many workplaces, although employees may have different "first" languages, they understand English or another language well. The rule merely requires that the employer provide the training in a language the employee *understands*. OSHA does not believe that this will be difficult, because employers are already communicating with their employees about safe working procedures, tool and equipment care, project requirements,

work schedules, and dozens of other items of daily importance to workplace operation and productivity. In other words, training is just another form of communicating important information to employees, a process that is going on in all U.S. workplaces at the present time. As to the comment about the difficulty of complying with the rule in workplaces that employ individuals with mental disabilities (Ex. 30-3336), OSHA can only emphasize that the same techniques employers use to transmit other essential workplace information to these individuals can be used to provide the training required by the standard.

The final rule also does not require employers to test employees' understanding or comprehension of the training given. However, employers are free to do so if they wish, and OSHA is aware that many employers do evaluate the effectiveness of their training immediately or soon after it is given. Thus, although the training paragraph does not require employee testing, employers who wish to have some way of ensuring that their employees understand the training content may establish any system that works for them. Employers are required by the standard to evaluate the training component of their programs when they do their periodic evaluations to ensure effectiveness.

Some commenters (see, e.g., Exs. 30-4538, 30-3686, 32-339-1) recommended that the final rule's training requirements be revised to be more consistent with those of other OSHA standards, such as the Bloodborne Pathogens rule (Exs. 32-4538, 32-339-1), the Process Safety Management standard (Ex. 32-339-1) or the Hazardous Waste Operations and Emergency Response standard (Ex. 30-3686). OSHA believes that the final rule's requirements, in paragraph (t)(3), that the training be in language the employee understands and that employees be permitted to ask questions and receive answers will together achieve the objective desired by these commenters, i.e., assurance that employees understand the training thoroughly.

Several commenters asked OSHA to clarify the phrase "ask questions and receive answers" (see, e.g., Exs. 30-3826, 32-198-4, 30-3686, 30-376). These commenters wanted clarification about the methods OSHA requires them to use to accomplish this (see, e.g., Exs. 30-3765, 30-3826). Other commenters recommended that the rule specify that employees be permitted to ask questions and receive answers promptly even if questions occur to them after the

training session is over (see, e.g., Exs. 30-2116, 30-2809, 30-2825, 30-2847, 30-3001, 30-3033, 30-3034, 30-3035, 30-3258, 30-3332, 30-4159, 30-4536, 30-4546, 30-4547).

Some commenters suggested that specific training techniques to be included in the rule. Suggestions included:

- Allow the use of electronic media, telephone reviews, and videos (see, e.g., Exs. 30-3826, 30-3765, 30-434, 30-3392).
- Require that training be provided in a supportive atmosphere that encourages discussion of concerns with respect to MSD-related working conditions and encourages opportunities for questions (Ex. 30-3686).
- Require training to be administered "live"; prohibit written training (Ex. 32-198-4).

A commenter argued for the need for live training as follows:

Employers often do not know at what level their employees are reading and comprehending. Workers are generally reluctant to share information about their literacy limitation (Sarmiento and Kay, "Workers Centered Learning," 1990). It is estimated that between 45%-50% of adults in America struggle due to some limitations in their literacy and/or language proficiency (which result in limitation of "understanding" or "reasoning"), according to "Adult Literacy in America" in publications of the U.S. Department of Education (1993). In addition, many of those functioning at a limited literacy level don't see themselves as having these limitations (Ex. 32-198-4).

The same commenter recommended methods such as visual aids, discussion and problem solving, and small group "hands-on" sessions, and noted that workers are more likely to trust the employers' programs and develop confidence if these more oral training methodologies are implemented (Ex. 32-198-4).

In response to these comments, OSHA restates the position it has taken consistently in other standards: OSHA's objectives are to require employers to provide basic training in ergonomics, to ensure that all trained employees understand the training, and to permit employees to ask questions if they need further information. The Agency does not dictate the methods that employers choose to achieve compliance with these requirements. Properly trained employees will be sufficiently informed to recognize the signs and symptoms of MSDs and the value of reporting them early, to identify MSD hazards in their jobs, to know how to use and evaluate the control measures that the employer implements to reduce those hazards,

and to work in ways that will reduce the risks in their jobs. The standard also does not state how long the training must last and when the question and answer periods must occur; instead, OSHA is leaving such things to the employer's discretion.

Paragraph (u)—What Must I Do To Make Sure My Ergonomics Program Is Effective?

The intent of the provisions of the Program Evaluation paragraph of the final Ergonomics Program standard is to require employers to evaluate their ergonomics program to ensure that it is effective. Good management, as well as common sense, suggest that periodic review of a program's effectiveness is necessary to ensure that the resources being expended on the program are, in fact, achieving the desired result and that the program is doing so in an efficient way. Program evaluation is a tool that can be used to ensure that an ergonomics program is appropriate for the specific MSD hazards in the employer's problem jobs and that the program is achieving desired results.

OSHA has long considered program evaluation to be an integral component of programs implemented to address health and safety issues in the workplace. For example, the Ergonomics Program Management Guidelines for Meatpacking Plants ("Meatpacking Guidelines") recommend regular program review and evaluation (Ex. 2-13). These guidelines suggest that procedures and mechanisms be developed to evaluate the ergonomics program and to monitor progress accomplished. Program evaluation is described in the Meatpacking Guidelines as a program component whose use reflects both management commitment and employee involvement. OSHA's 1989 Voluntary Safety and Health Program Management Guidelines also recommend regular program evaluation as an integral program component (Ex. 2-12). Further, OSHA's Voluntary Protection Programs (V.P.P.) and Consultation Program require periodic evaluations of an employer's safety and health program, including that portion of the program addressing ergonomic issues.

The proposal contained a "basic obligation" section that merely summarized the proposed program evaluation provisions. The proposed basic obligation section also stated that employers were to evaluate their ergonomics program periodically, and at least every 3 years, "to ensure that it is in compliance with this standard." Because the basic obligation sections of the proposed standard led to confusion

and were not helpful, OSHA has not included them in the final rule. Since the basic obligation section only summarized the proposed program evaluation requirements, comments on that section are discussed below, in connection with the proposed requirement to which they refer.

The proposed rule contained provisions requiring employers with programs to review them periodically to ensure their effectiveness; identified the procedures employers were required to follow when conducting evaluations; proposed that evaluations be conducted as often as needed and at least every 3 years; and proposed that program deficiencies identified during the evaluation be corrected promptly. The final rule's program evaluation provisions have been revised to reflect comments received, but are generally similar to those proposed.

Paragraph (u)(1) of the final rule provides for the frequency of required program evaluations. The methods and procedures employers are required to use in such evaluations are included in paragraph (u)(1)(i) through (iv). Provision is made for other events that may trigger program evaluations at more frequent intervals in paragraph (u)(2). In addition, the prompt correction of any deficiencies identified during the evaluation is covered in final rule paragraph (u)(3). The following discussion presents OSHA's reasons for including revised program evaluation provisions in the final rule, and summarizes the comments the Agency received on the proposed program evaluation requirements.

Paragraph (u)(1)—Frequency of Program Evaluations

OSHA received many comments (see, e.g., Exs. 30-240; 30-1671; 30-3860; 500-71-86; 500-137; 30-3686; 32-210-2; 32-85; Tr. 8982; 30-2116; 30-2809; 30-2825; 30-2847; 30-3258; 30-3035; 30-3001; 30-3033; 30-3034; 30-4159; 30-4534; 30-4536; 30-4800; 30-4776; 30-4546; 30-4547; 30-4548; 30-4549; 30-4562; 30-4627; 30-3332; 30-3259; 30-4801; 30-3898; 30-4270; 30-4498; 30-3813; 500-33; 30-3745; 30-3765; 30-3368; 30-4713; 30-4046; 30-4247) on the proposed frequency of ergonomic program evaluations, as well as on the events that should trigger them. A few commenters (see, e.g., Exs. 30-240, 30-1671, 30-3860, 500-137) agreed with OSHA's proposed 3 year time frame, while others stated that they believed a 3-year interval was too long and that program evaluations should take place periodically and at least annually (see, e.g., Exs. 30-3686; 32-210-2; 32-85; and Tr. 8982).